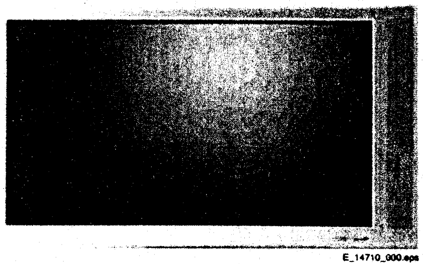
**Colour Television** **Chassis**

# LC4.9E

## AA

## For manual LGE plasma panel see: 3122 785 15590

Service
Service
Service



# Service Manual

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**PHILIPS**

# 1. Technical Specifications, Connections, and Chassis Overview

**Index of this chapter:**

1.1 Technical Specifications
1.2 Connection Overview
1.3 Chassis Overview

**Notes:**

- Figures can deviate due to the different set executions.
- Specifications are indicative (subject to change).

## 1.1 Technical Specifications

### 1.1.1 Vision

Display type : Plasma
Screen size : 42" (107 cm), 16:9
Screen size : 50" (127 cm), 16:9
Resolution (HxV pixels) : 42 inch: 852 x 480
: 50 inch: 1366 x 768

Contrast ratio :
- 42PF5320/10 : 10,000:1
- 42PF7320/10 : 13,000:1
- 50PF7320/10 : 10,000:1
Light output (cd/m$^2$) : 1500
Viewing angle (HxV degrees) : 160x160
Tuning system : PLL
TV Colour systems : PAL B/G, D/K, I
: SECAM B/G, D/K, L/L'
Video playback : PAL B/G; SECAM L/L'
: NTSC M/N 3.58, 4.43
Supported computer formats : VGA (640x480)
: VGA (720x400)
: VGA (720x480)
: MAC (640x480)
: MAC (832x624)
: SVGA (800x600)
: XVGA (1024x768)
: WXGA (1280x768)
: WXGA (1280x960)
: WXGA (1280x1024)
Supported video formats : 640x480i - 1fH
: 720x576i - 1fH
: 640x480p - 2fH
: 720x576p - 2fH
: 852x480p - 2fH
: 1920x1080i - 2fH
Presets/channels : 100 presets
Tuner bands : VHF
: UHF
: S-band
: Hyper-band

### 1.1.2 Sound

Sound systems : FM-mono
: FM-stereo B/G
: NICAM B/G, D/K, I, L
: AV Stereo
Maximum power ($W_{RMS}$) : 2 x 15

### 1.1.3 Miscellaneous

Power supply:
- Mains voltage ($V_{AC}$) : 220 - 240

- Mains frequency (Hz) : 50 / 60

Ambient conditions:
- Temperature range (°C) : +5 to +40
- Maximum humidity : 90% R.H.

Power consumption
- Normal operation (W) : ≈ 450
- Stand-by (W) : < 2

Dimensions (WxHxD cm) : 42 inch: 124x68x10.4
: 50 in.:141.5x78x10.4

Weight (kg) : 42 inch: 42
: 50 inch: 50

## 1.2 Connection Overview

**Note:** The following connector colour abbreviations are used (acc. to DIN/IEC 757): Bk= Black, Bu= Blue, Gn= Green, Gy= Grey, Rd= Red, Wh= White, and Ye= Yellow.

### 1.2.1 Side I/O connections

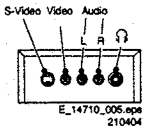

Figure 1-1 Side I/O connections

***S-Video (Hosiden): Video Y/C - In***

| | | | |
|---|---|---|---|
| 1 | - Ground Y | Gnd | ⏚ |
| 2 | - Ground C | Gnd | ⏚ |
| 3 | - Video Y | 1 $V_{PP}$ / 75 ohm | →⊙ |
| 4 | - Video C | 0.3 $V_{PP}$ / 75 ohm | →⊙ |

***Cinch: Video CVBS - In, Audio - In***

| | | | |
|---|---|---|---|
| Ye | - Video CVBS | 1 $V_{PP}$ / 75 ohm | →⊙◎ |
| Wh | - Audio L | 0.5 $V_{RMS}$ / 10 kohm | →⊙◎ |
| Rd | - Audio R | 0.5 $V_{RMS}$ / 10 kohm | →⊙◎ |

***Mini Jack: Audio Head phone - Out***

| | | | |
|---|---|---|---|
| Bk | - Head phone | 32 - 600 ohm / 10 mW | ◎/🎧 |

### 1.2.2 Rear Connections

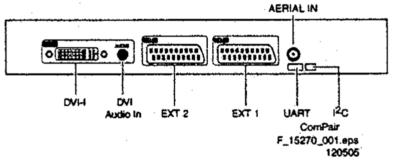

Figure 1-2 Rear I/O

***Aerial - In***

| | | | |
|---|---|---|---|
| - | - IEC-type (EU) | Coax, 75 ohm | ⊤ |

***Mini Jack: Audio - In***

| | | | |
|---|---|---|---|
| 1 | - Ground | Gnd | ⏚ |
| 2 | - Audio L | 0.5 $V_{RMS}$ / 10 kohm | →⊙ |
| 3 | - Audio R | 0.5 $V_{RMS}$ / 10 kohm | →⊙ |

***Service connector (ComPair)***

| | | | |
|---|---|---|---|
| 1 | - SDA-S | I$^2$C Data (0 - 5 V) | →⊙○→ |
| 2 | - SCL-S | I$^2$C Clock (0 - 5 V) | →⊙ |
| 3 | - Ground | Gnd | ⏚ |

***Service connector (UART)***

| | | | |
|---|---|---|---|
| 1 | - UART_TX | Transmit | ○→ |
| 2 | - Ground | Gnd | ⏚ |
| 3 | - UART_RX | Receive | →⊙ |

***DVI-I: Digital/Analogue Video - In***

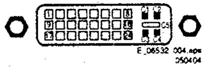

Figure 1-3 DVI-I connector

| | | | |
|---|---|---|---|
| 1 | - D2- | | →⊙ |
| 2 | - D2+ | | →⊙ |
| 3 | - Shield | Gnd | ⏚ |
| 4 | - D4- | | →⊙ |
| 5 | - D4+ | | →⊙ |
| 6 | - DDC_SCL | DDC clock | ○→ |
| 7 | - DDC_SDA | DDC data | →⊙○→ |
| 8 | - V-sync | 0 - 5 V | →⊙ |
| 9 | - D1- | | →⊙ |
| 10 | - D1+ | | →⊙ |
| 11 | - Shield | Gnd | ⏚ |
| 12 | - D3- | | →⊙ |
| 13 | - D3+ | | →⊙ |
| 14 | - +5V | | →⊙ |
| 15 | - Ground | Gnd | ⏚ |
| 16 | - HPD | Hot Plug Detect | →⊙ |
| 17 | - D0- | | →⊙ |
| 18 | - D0+ | | →⊙ |
| 19 | - Shield | Gnd | ⏚ |
| 20 | - D5- | | →⊙ |
| 21 | - D5+ | | →⊙ |
| 22 | - Shield | Gnd | ⏚ |
| 23 | - CLK+ | | →⊙ |
| 24 | - CLK- | | →⊙ |
| C1 | - Video Red | 0.7 $V_{PP}$ / 75 ohm | →⊙ |
| C2 | - Video Green | 0.7 $V_{PP}$ / 75 ohm | →⊙ |
| C3 | - Video Blue | 0.7 $V_{PP}$ / 75 ohm | →⊙ |
| C4 | - H-sync | 0 - 5 V | →⊙ |
| C5 | - Ground | Gnd | ⏚ |

***EXT1: Video RGB - In, CVBS - In/Out, Audio - In/Out***

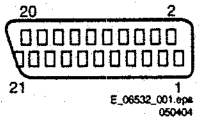

Figure 1-4 SCART connector

| | | | |
|---|---|---|---|
| 1 | - Audio R | 0.5 $V_{RMS}$ / 1 kohm | ○→ |
| 2 | - Audio R | 0.5 $V_{RMS}$ / 10 kohm | →⊙ |
| 3 | - Audio L | 0.5 $V_{RMS}$ / 1 kohm | ○→ |
| 4 | - Ground Audio | Gnd | ⏚ |
| 5 | - Ground Blue | Gnd | ⏚ |
| 6 | - Audio L | 0.5 $V_{RMS}$ / 10 kohm | →⊙ |
| 7 | - Video Blue | 0.7 $V_{PP}$ / 75 ohm | →⊙ |
| 8 | - Function Select | 0 - 2 V: INT<br>4.5 - 7 V: EXT 16:9<br>9.5 - 12 V: EXT 4:3 | →⊙ |
| 9 | - Ground Green | Gnd | ⏚ |
| 10 | - n.c. | | |
| 11 | - Video Green | 0.7 $V_{PP}$ / 75 ohm | →⊙ |
| 12 | - n.c. | | |
| 13 | - Ground Red | Gnd | ⏚ |
| 14 | - Ground | Gnd | ⏚ |
| 15 | - Video Red | 0.7 $V_{PP}$ / 75 ohm | →⊙ |
| 16 | - Status/FBL | 0 - 0.4 V: INT<br>1 - 3 V: EXT / 75 ohm | →⊙ |
| 17 | - Ground Video | Gnd | ⏚ |
| 18 | - Ground FBL | Gnd | ⏚ |
| 19 | - Video Terr. CVBS | 1 $V_{PP}$ / 75 ohm | ○→ |
| 20 | - Video CVBS/Y | 1 $V_{PP}$ / 75 ohm | →⊙ |
| 21 | - Shield | Gnd | ⏚ |

***EXT2: Video Y/C - In, CVBS - In/Out, Audio - In/Out***

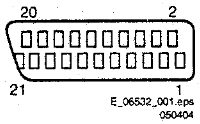

Figure 1-5 SCART connector

| | | | |
|---|---|---|---|
| 1 | - Audio R | 0.5 $V_{RMS}$ / 1 kohm | ○→ |
| 2 | - Audio R | 0.5 $V_{RMS}$ / 10 kohm | →⊙ |
| 3 | - Audio L | 0.5 $V_{RMS}$ / 1 kohm | ○→ |
| 4 | - Ground Audio | Gnd | ⏚ |
| 5 | - Ground Blue | Gnd | ⏚ |
| 6 | - Audio L | 0.5 $V_{RMS}$ / 10 kohm | →⊙ |
| 7 | - n.c. | | |
| 8 | - Function Select | 0 - 2 V: INT<br>4.5 - 7 V: EXT 16:9<br>9.5 - 12 V: EXT 4:3 | →⊙ |
| 9 | - Ground Green | Gnd | ⏚ |
| 10 | - n.c. | | |
| 11 | - n.c. | | |
| 12 | - n.c. | | |
| 13 | - Ground Red | Gnd | ⏚ |
| 14 | - Ground | Gnd | ⏚ |
| 15 | - YC/C - in | 0.7 $V_{PP}$ / 75 ohm | →⊙ |
| 16 | - n.c. | | |
| 17 | - Ground Video | Gnd | ⏚ |
| 18 | - Ground | Gnd | ⏚ |
| 19 | - Video Mon. CVBS | 1 $V_{PP}$ / 75 ohm | ○→ |
| 20 | - YC/Y - in | 0.7 $V_{PP}$ / 75 ohm | →⊙ |
| 21 | - Shield | Gnd | ⏚ |

# 4. Mechanical Instructions

**Index of this chapter:**

4.1 Cable Dressing
4.2 Service Positions
4.3 Assy/Panel Removal
4.4 Set Re-assembly

**Notes:**

- Figures below can deviate slightly from the actual situation, due to the different set executions.
- Follow the disassembling instructions in described order.

## 4.1 Cable Dressing

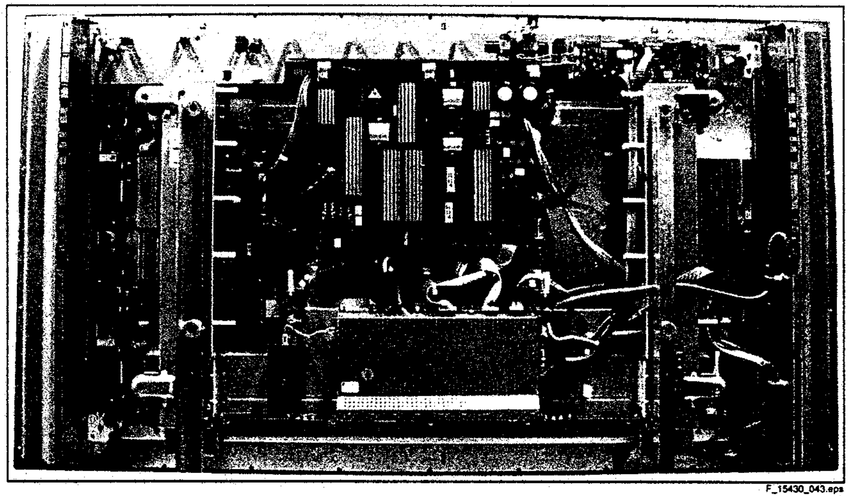
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Figure 4-1 Cable dressing

## 4.2 Service Positions

For easy servicing of this set, there are a few possibilities created:

- The buffers from the packaging (see figure "Rear cover").
- Foam bars (created for service).
- Aluminium service stands (created for Service).

### 4.2.1 Foam Bars

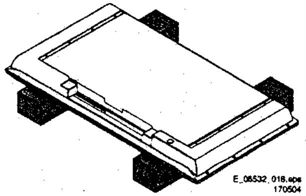
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Figure 4-2 Foam bars

The foam bars (order code 3122 785 90580 for two pieces) can be used for all types and sizes of Flat TVs. By laying the TV face down on the (ESD protective) foam bars, a stable situation is created to perform measurements and alignments.
By placing a mirror under the TV, you can monitor the screen.

### 4.2.2 Aluminium Stands

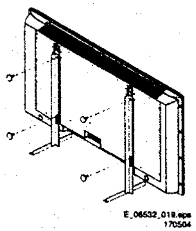
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Figure 4-3 Aluminium stands (drawing of MkI)

The aluminium stands (order code 3122 785 90480) can be mounted with the back cover removed or still left on. So, the stand can be used to store products or to do measurements. It is also very suitable to perform duration tests without taking much space, without having the risk of overheating, or the risk of products falling. The stands can be mounted and removed quick and easy with use of the delivered screws that can be tightened and loosened manually without the use of tools. See figure above.

**Note:** Only use the delivered screws to mount the monitor to the stands.

## 4.3 Assy/Panel Removal

### 4.3.1 Metal Rear Cover

**Caution:** Disconnect the Mains/AC Power cord before you remove the rear cover!

1. Place the TV set upside down on a table top, using the foam bars (see part "Foam Bars").
   **Caution:** do **not** put pressure on the display, but let the monitor lean on the speakers or the Front cover.
2. Remove all T10 screws around the edges of the metal rear cover: "parker" screws around the outer rim, "tapping" screws around the connector plate.
3. Remove the four "mushrooms" from the rear cover.
4. Lift the metal rear cover from the set. Make sure that wires and flat foils are not damaged.

### 4.3.2 Speaker Compartment Cover

After removing the metal rear cover, you gain access to the Speaker Compartment covers.

1. Remove all T10 screws [1] around the outer rim of the cover (see Figure "Speaker compartment cover removal").
2. Remove the T10 screws [2] on top of the inner rim, including the one which secures the grounding clamp (3, see Figure "Grounding clamp").
3. Now, remove the plastic cable fixation noose (4, see Figure "Cable fixation noose").
4. After removal of all the screws, slightly push the top of the cover inwards. This will lift the outer rim slightly up so you can take the cover out.

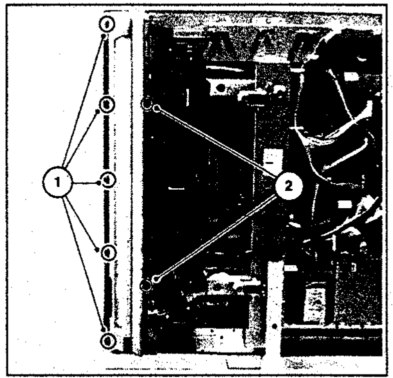

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Figure 4-4 Speaker compartment cover removal

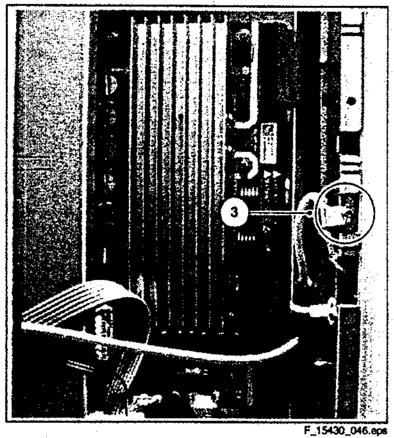

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Figure 4-5 Grounding clamp

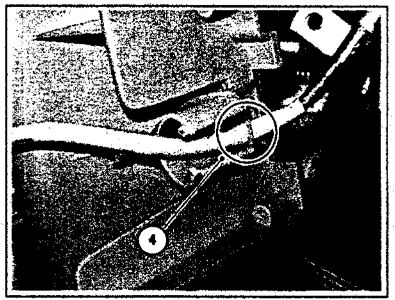

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Figure 4-6 Cable fixation noose

### 4.3.3 Side I/O Panel

After removal of the Speaker Compartment Covers, this panel is accessible.

1. Disconnect the cable (1) from the panel.
2. Remove the T10 mounting screws [2] that hold the assy.
3. Remove the panel from its bracket [3], by pushing against the front side of the side I/O cinch connectors.

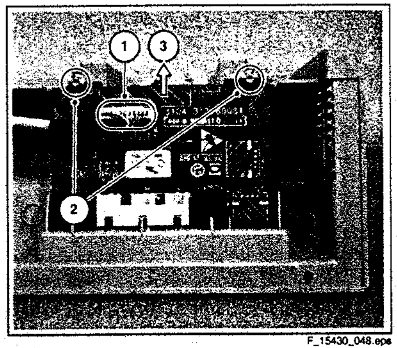

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Figure 4-7 Side I/O panel removal

When it is defective, replace the whole unit.

### 4.3.4 LED Panel

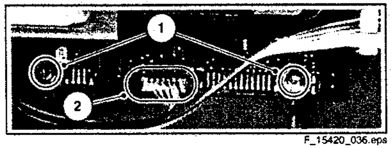

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Figure 4-8 LED panel

1. Remove the fixation screws (1) and take the panel out of its brackets.
2. Disconnect the cable (2) from the panel.

### 4.3.5 Keyboard Control Panel

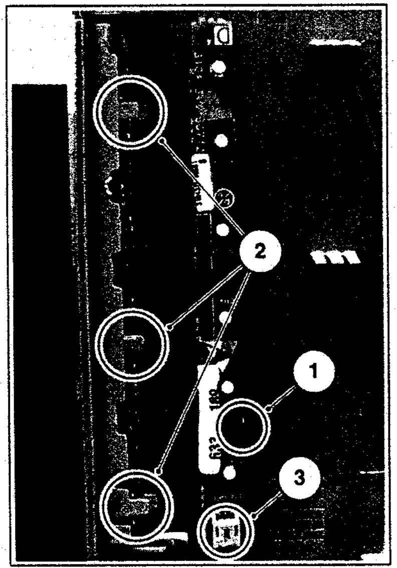

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Figure 4-9 Keyboard control panel

1. Remove the panel (1) from its three brackets (2).
2. Disconnect the cable (3) from the panel.

### 4.3.6 SSB Board Cover Shield

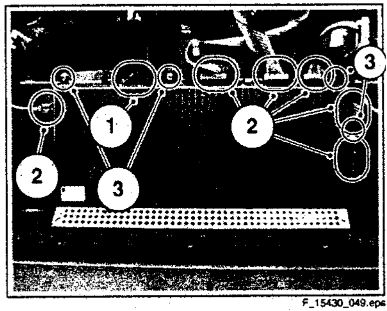

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Figure 4-10 SSB board cover shield

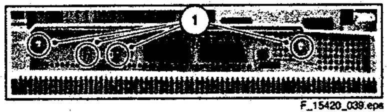

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Figure 4-11 DVI-I connector and rear I/O panel screws

1. Very cautiously disconnect the LVDS cable (1) from the SSB panel (see Figure "SSB board cover shield"). Notice that this cable is very fragile.
2. Remove all other cables (2) from the SSB board (see Figure "SSB board cover shield"), including the grounding cable.
3. Remove the fixation screws (3), see Figure "SSB board cover shield" and remove the SSB shield with the SSB board inside, and the rear I/O panel still attached to it.
4. Remove the fixation screws (1) from the DVI-I connector and from the rear panel, see Figure "DVI-I connector and rear panel screws", and remove the rear I/O panel from the SSB board.
5. Remove the upper part of the shield from the SSB panel, by unhooking it from its brackets. Be careful not to damage the LVDS connector on the SSB board, see Figure "SSB board cover shield".

### 4.3.7 SSB Board

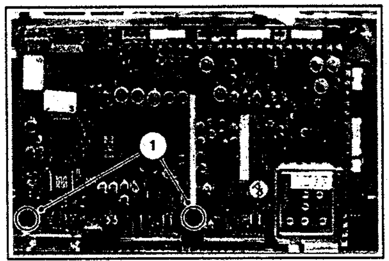

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Figure 4-12 SSB board

1. Remove the two fixation screws (1) that secure the SSB board on the lower part of the SSB shielding, see Figure "SSB board".
2. Remove the SSB panel.

### 4.3.8 Power Supply Panel

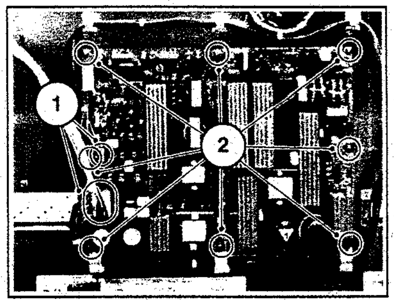

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Figure 4-13 Power supply panel

1. Disconnect all cables (1) from the panel.
2. Remove the fixation screws (2) from the panel.
3. Take the panel out of its brackets.

### 4.3.9 Class D Audio Amplifier Panel

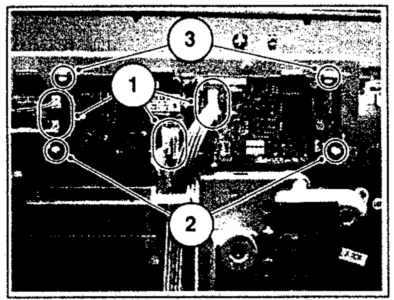

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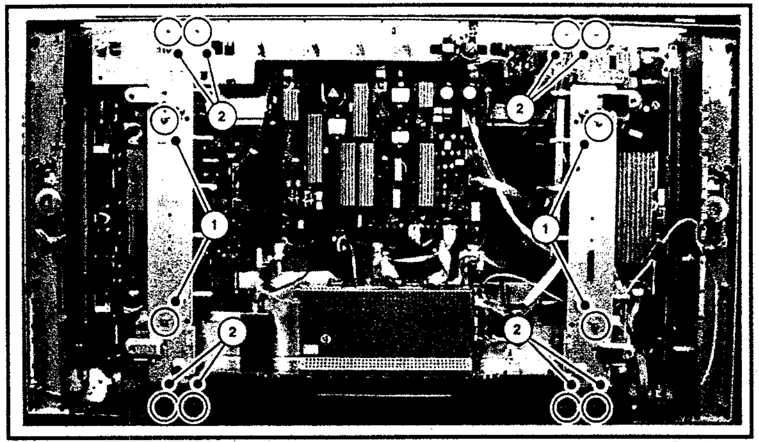
Figure 4-14 Class D audio amplifier panel

1. Disconnect all cables (1) from the panel.
2. Pinch the plastic fixation clamps (2) firmly between your fingers, and pull the panel upwards.
3. Take the panel out of its brackets (3).

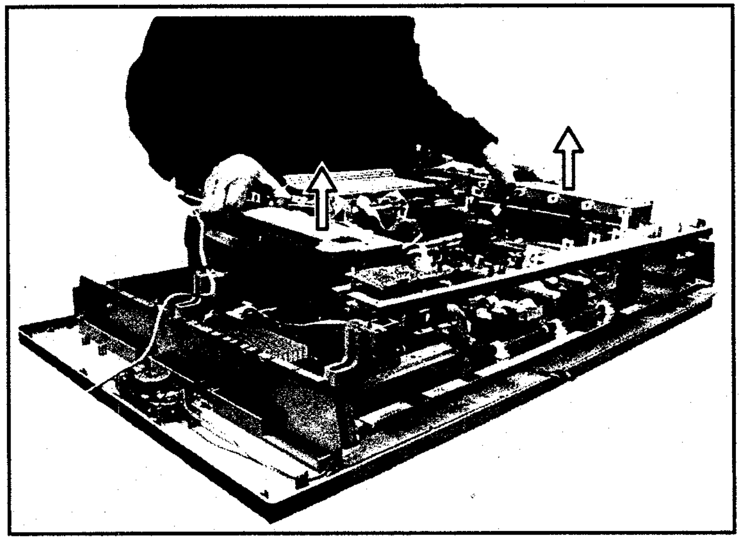
### 4.3.10 Plasma Display Panel / Glass Plate

1. Remove the T20 display panel mounting screws [1].
2. Remove the T10 screws [2] from the mounting frame.
3. Unplug all cable(s):
   - LVDS cable at SSB side (fragile connector!).
   - SSB supply cables at the Main Supply board.
   - Mains cable at the Main Supply board.
   - Side I/O cable at SSB side (fragile connector!).
   - Cable at LED panel.
   - Keyboard cable at SSB side.
   - Audio Amplifier supply cable at the Main Supply board.
   - Loudspeaker cables (incl. ferrites) at the Audio panel.
4. Lift the metal frame (together with all PWBs) from the display panel (see figure "Frame lift").
5. After removal of the frame, lift the PDP from the set.



F_15400_121.eps
200505

Figure 4-15 Display panel removal



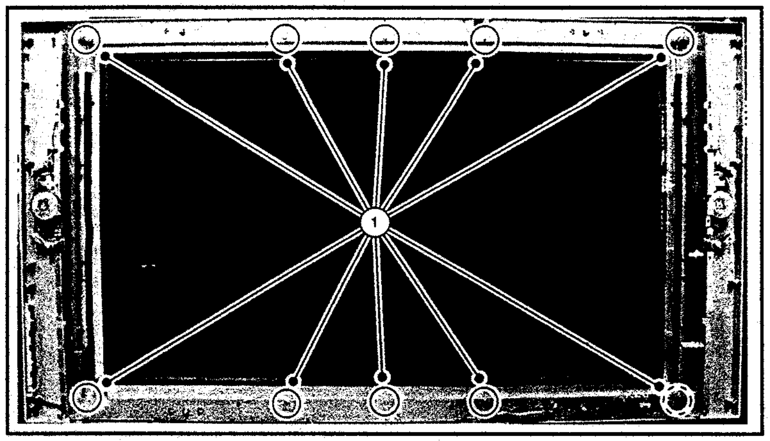
F_15400_120.eps
200505

Figure 4-16 Frame lift

### 4.3.11 PDP Glass Plate

In order to remove/exchange the PDP glass plate:

1. Remove the PDP as described earlier.
2. Remove the T10 screws [1] from the mounting frame.
3. After removal of the frame, you can lift the glass plate from the set.



F_15400_119.eps
200505

Figure 4-17 Glass plate removal

## 4.4 Set Re-assembly

To re-assemble the whole set, execute all processes in reverse order.

**Notes:**

- While re-assembling, make sure that all cables are placed and connected in their original positions. See Figure "Cable dressing". Be careful with the fragile LVDS cable.
- For a complete description of the Plasma panel, see the LGE plasma panel Service Manual (12nc is listed on the frontpage).

---

# 5. Service Modes, Error Codes, and Fault Finding

**Index of this chapter:**

5.1 Test Points
5.2 Service Modes
5.3 Problems and Solving Tips Related to CSM
5.4 Service Tools
5.5 Error Codes
5.6 The Blinking LED Procedure
5.7 Fault Finding and Repair Tips

## 5.1 Test Points

This chassis is equipped with test points in the service printing. In the schematics test points are identified with a rectangle box around Fxxx or Ixxx.
Perform measurements under the following conditions:

- Television set in Service Default Alignment Mode.
- Video input: Colour bar signal.
- Audio input: 3 kHz left channel, 1 kHz right channel.

## 5.2 Service Modes

Service Default mode (SDM) and Service Alignment Mode (SAM) offers several features for the service technician, while the Customer Service Mode (CSM) is used for communication between the call centre and the customer.

This chassis also offers the option of using ComPair, a hardware interface between a computer and the TV chassis. It offers the possibilities of structured troubleshooting, error code reading, and software version readout for all chassis.
*Minimum requirements for ComPair:* a Pentium processor, a Windows OS, and a CD-ROM drive (see also paragraph "ComPair").

### 5.2.1 Service Default Mode (SDM)

***Purpose***

- To create a predefined setting for measurements to be made.
- To override software protections.
- To start the blinking LED procedure.
- To inspect the error buffer.
- To check the life timer.

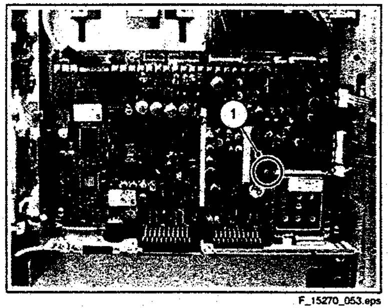
***Specifications***

- Tuning frequency: 475.25 MHz.
- Colour system: PAL-BG.
- All picture settings at 50% (brightness, colour contrast, hue).
- Bass, treble, and balance at 50 %; volume at 25 %.
- All service-unfriendly modes (if present) are disabled. The service unfriendly modes are:
  - Timer / Sleep timer.
  - Child / parental lock.
  - Blue mute.
  - Hotel / hospital mode.
  - Auto shut off (when no "IDENT" video signal is received for 15 minutes).
  - Skipping of non-favourite presets / channels.
  - Auto-storage of personal presets.
  - Auto user menu time-out.
  - Auto Volume Levelling (AVL).

***How to Enter***

To enter SDM, use one of the following methods:

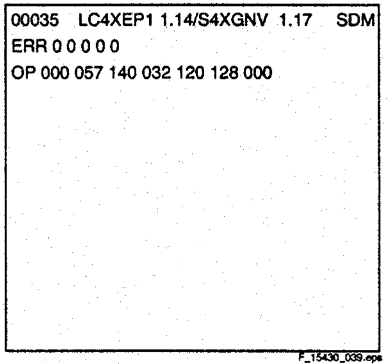
- Press the following key sequence on the remote control transmitter: "**062596**" directly followed by the MENU button (do not allow the display to time out between entries while keying the sequence).
- Short "Service" jumpers on the TV board during cold start and apply mains (see Figure "Service jumpers"). Then press the mains button (remove the short after start-up).
**Caution**: Entering SDM by shorting "Service" jumpers will override the +8V-protection. Do this only for a short period. When doing this, the service-technician must know exactly what he is doing, as it could damage the television set.
- Or via ComPair.



F_15270_053.eps
180505

Figure 5-1 Service jumpers

After entering SDM, the following screen is visible, with SDM in the upper right corner of the screen to indicate that the television is in Service Default Mode.



```
00035  LC4XEP1 1.14/S4XGNV  1.17   SDM
ERR 0 0 0 0 0
OP 000 057 140 032 120 128 000
```

F_15430_039.eps
080605

Figure 5-2 SDM menu

#### How to Navigate

Use one of the following methods:

- When you press the MENU button on the remote control, the set will switch on the normal user menu in the SDM mode.
- On the TV, press and hold the VOLUME DOWN and press the CHANNEL DOWN for a few seconds, to switch from SDM to SAM and reverse.

#### How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.
If you turn the television set off by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SDM when mains is re-applied, and the error buffer is not cleared.

### 5.2.2 Service Alignment Mode (SAM)

#### Purpose

- To change option settings.
- To display / clear the error code buffer.
- To perform alignments.

#### Specifications

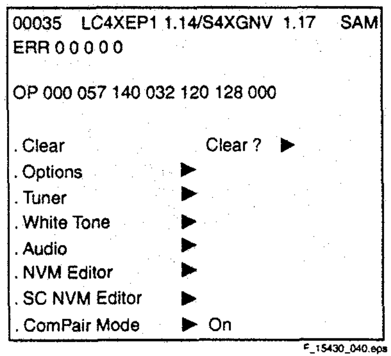
- Operation hours counter (maximum five digits displayed).
- Software version, Error codes, and Option settings display.
- Error buffer clearing.
- Option settings.
- AKB switching.
- Software alignments (Tuner, White Tone, Geometry & Audio).
- NVM Editor.
- ComPair Mode switching.

#### How to Enter

To enter SAM, use one of the following methods:

- Press the following key sequence on the remote control transmitter: "**062596**" directly followed by the OSD/ STATUS/INFO(I+) button (do not allow the display to time out between entries while keying the sequence).
- Or via ComPair.

After entering SAM, the following screen is visible, with SAM in the upper right corner of the screen to indicate that the television is in Service Alignment Mode.



```
00035   LC4XEP1 1.14/S4XGNV  1.17    SAM
ERR 0 0 0 0 0

OP 000 057 140 032 120 128 000

. Clear                Clear ?  ▶
. Options           ▶
. Tuner             ▶
. White Tone        ▶
. Audio             ▶
. NVM Editor        ▶
. SC NVM Editor     ▶
. ComPair Mode      ▶  On
```

F_15430_040.eps
080605

Figure 5-3 SAM menu

#### Menu Explanation

1. **LLLLL.** This represents the run timer. The run timer counts normal operation hours, but does not count standby hours.
2. **AAABCD-X.Y.** This is the software identification of the main microprocessor:
   - **A**= the project name (LC04.x).
   - **B**= the region: E= Europe, A= Asia Pacific, U= NAFTA, L= LATAM.
   - **C**= the software diversity:
     - **Europe:** T= 1 page TXT, F= Full TXT, V= Voice control.
     - **LATAM and NAFTA:** N= Stereo non-dBx, S= Stereo dBx.
     - **Asian Pacific:** T= TXT, N= non-TXT, C= NTSC.
     - **ALL regions:** M= mono, D= DVD, Q= Mk2.
   - **D**= the language cluster number.
   - **X**= the main software version number (updated with a major change that is incompatible with previous versions).
   - **Y**= the sub software version number (updated with a minor change that is compatible with previous versions).
3. **EEEEE-F.GG.** This is the software identification of the Scaler:
   - **EEEEEE**= the scaler sw cluster
   - **F**= the main sw version no.
   - **GG**= the sub-version no.
4. **SAM.** Indication of the Service Alignment Mode.
5. **Error Buffer.** Shows all errors detected since the last time the buffer was erased. Five errors possible.
6. **Option Bytes.** Used to set the option bytes. See "Options" in the Alignments section for a detailed description. Seven codes are possible.
7. **Clear.** Erases the contents of the error buffer. Select the CLEAR menu item and press the MENU RIGHT key. The content of the error buffer is cleared.
8. **Options.** Used to set the option bits. See "Options" in the Alignments section for a detailed description.
9. **Tuner.** Used to align the tuner. See "Tuner" in the Alignments section for a detailed description.
10. **White Tone.** Used to align the white tone. See "White Tone" in the Alignments section for a detailed description.
11. **Audio.** No audio alignment is necessary for this television set.
12. **NVM Editor.** Can be used to change the NVM data in the television set. See table "NVM data" further on.
13. **SC NVM Editor.** Can be used to edit Scaler NVM.
14. **ComPair.** Can be used to switch on the television to In System Programming (ISP) mode, for software uploading via ComPair.
    **Caution:** When this mode is selected without ComPair connected, the TV will be blocked. Remove the AC power to reset the TV.

#### How to Navigate

- In SAM, select menu items with the MENU UP/DOWN keys on the remote control transmitter. The selected item will be highlighted. When not all menu items fit on the screen, use the MENU UP/DOWN keys to display the next / previous menu items.
- With the MENU LEFT/RIGHT keys, it is possible to:
  - Activate the selected menu item.
  - Change the value of the selected menu item.
  - Activate the selected submenu.
- In SAM, when you press the MENU button twice, the set will switch to the normal user menus (with the SAM mode still active in the background). To return to the SAM menu press the MENU or STATUS/EXIT button.
- When you press the MENU key in while in a submenu, you will return to the previous menu.

#### How to Store SAM Settings

To store the settings changed in SAM mode, leave the top level SAM menu by using the POWER button on the remote control transmitter or the television set.

#### How to Exit

Switch the set to STANDBY by pressing the mains button on the remote control transmitter or the television set.
If you turn the television set "off" by removing the mains (i.e., unplugging the television) without using the mains button, the television set will remain in SAM when mains is re-applied, and the error buffer is not cleared.

### 5.2.3 Customer Service Mode (CSM)

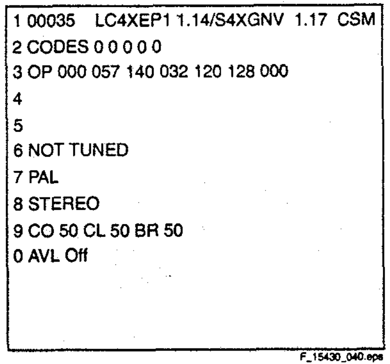
#### Purpose

The Customer Service Mode shows error codes and information on the TV's operation settings. The call centre can instruct the customer (by telephone) to enter CSM in order to identify the status of the set. This helps the call centre to diagnose problems and failures in the TV set before making a service call.
The CSM is a read-only mode; therefore, modifications are not possible in this mode.

#### How to Enter

To enter CSM, press the following key sequence on the remote control transmitter: "**123654**" (do not allow the display to time out between entries while keying the sequence).

Upon entering the Customer Service Mode, the following screen will appear:



```
1 00035   LC4XEP1 1.14/S4XGNV  1.17  CSM
2 CODES 0 0 0 0 0
3 OP 000 057 140 032 120 128 000
4
5
6 NOT TUNED
7 PAL
8 STEREO
9 CO 50 CL 50 BR 50
0 AVL Off
```

F_15430_040.eps
080605

Figure 5-4 CSM menu

#### Menu Explanation

1. Indication of the decimal value of the operation hours counter, Software identification of the main microprocessor (see "Service Default or Alignment Mode" for an explanation), and the service mode (CSM = Customer Service Mode).
2. Displays the last five errors detected in the error code buffer.
3. Displays the option bytes.
4. Displays the type number version of the set.
5. Reserved item for P3C call centres (AKBS stands for Advanced Knowledge Base System).
6. Indicates the television is receiving an "IDENT" signal on the selected source. If no "IDENT" signal is detected, the display will read "NOT TUNED"
7. Displays the detected Colour system (e.g. PAL/NTSC).
8. Displays the detected Audio (e.g. stereo/mono).
9. Displays the picture setting information.
10. Displays the sound setting information.

#### How to Exit

To exit CSM, use one of the following methods:

- Press the MENU, STATUS/EXIT, or POWER button on the remote control transmitter.
- Press the POWER button on the television set.

## 5.3 Problems and Solving Tips Related to CSM

### 5.3.1 Picture Problems

**Note**: The problems described below are all related to the TV settings. The procedures used to change the value (or status) of the different settings are described.

#### Picture too Dark or too Bright

*If:*

- The picture improves when you press the AUTO PICTURE button on the remote control transmitter, or
- The picture improves when you enter the Customer Service Mode,

*Then:*

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys (if necessary) to select BRIGHTNESS.
6. Press the MENU LEFT/RIGHT keys to increase or decrease the BRIGHTNESS value.
7. Use the MENU UP/DOWN keys to select PICTURE.
8. Press the MENU LEFT/RIGHT keys to increase or decrease the PICTURE value.
9. Press the MENU button on the remote control transmitter twice to exit the user menu.
10. The new PERSONAL preference values are automatically stored.

#### White Line around Picture Elements and Text

*If:*

The picture improves after you have pressed the AUTO PICTURE button on the remote control transmitter,

*Then:*

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys to select SHARPNESS.
6. Press the MENU LEFT key to decrease the SHARPNESS value.
7. Press the MENU button on the remote control transmitter twice to exit the user menu.
8. The new PERSONAL preference value is automatically stored.

#### Snowy Picture

Check CSM line 6. If this line reads "Not Tuned", check the following:

- Antenna not connected. Connect the antenna.

- No antenna signal or bad antenna signal. Connect a proper antenna signal.
- The tuner is faulty (in this case line 2, the Error Buffer line, will contain error number 10). Check the tuner and replace/ repair the tuner if necessary.

***Black and White Picture***

*If:*

- The picture improves after you have pressed the AUTO PICTURE button on the remote control transmitter.

*Then:*

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys to select COLOR.
6. Press the MENU RIGHT key to increase the COLOR value.
7. Press the MENU button on the remote control transmitter twice to exit the user menu.
8. The new PERSONAL preference value is automatically stored.

***Menu Text not Sharp Enough***

*If:*

- The picture improves after you have pressed the AUTO PICTURE button on the remote control transmitter.

*Then:*

1. Press the AUTO PICTURE button on the remote control transmitter repeatedly (if necessary) to choose PERSONAL picture mode.
2. Press the MENU button on the remote control transmitter. This brings up the normal user menu.
3. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu.
4. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
5. Use the MENU UP/DOWN keys to select PICTURE.
6. Press the MENU LEFT key to decrease the PICTURE value.
7. Press the MENU button on the remote control transmitter twice to exit the user menu.
8. The new PERSONAL preference value is automatically stored.

## 5.4 Service Tools

### 5.4.1 ComPair

***Introduction***

ComPair (Computer Aided Repair) is a service tool for Philips Consumer Electronics products. ComPair is a further development on the European DST (service remote control), which allows faster and more accurate diagnostics. ComPair has three big advantages:

1. ComPair helps you to quickly get an understanding on how to repair the chassis in a short time by guiding you systematically through the repair procedures.
2. ComPair allows very detailed diagnostics (on I$^2$C level) and is therefore capable of accurately indicating problem areas. You do not have to know anything about I$^2$C commands yourself because ComPair takes care of this.
3. ComPair speeds up the repair time since it can automatically communicate with the chassis (when the microprocessor is working) and all repair information is directly available. When ComPair is installed together with the Force/SearchMan electronic manual of the defective chassis, schematics and PWBs are only a mouse click away.

***Specifications***

ComPair consists of a Windows based fault finding program and an interface box between PC and the (defective) product. The ComPair interface box is connected to the PC via a serial (or RS-232) cable.
For this chassis, the ComPair interface box and the TV communicate via a bi-directional service cable via the service connector(s).

The ComPair faultfinding program is able to determine the problem of the defective television. ComPair can gather diagnostic information in two ways:

- Automatically (by communicating with the television): ComPair can automatically read out the contents of the entire error buffer. Diagnosis is done on I$^2$C/UART level. ComPair can access the I$^2$C/UART bus of the television. ComPair can send and receive I$^2$C/UART commands to the microcontroller of the television. In this way, it is possible for ComPair to communicate (read and write) to devices on the I$^2$C/UART buses of the TV-set.
- Manually (by asking questions to you): Automatic diagnosis is only possible if the microcontroller of the television is working correctly and only to a certain extent. When this is not the case, ComPair will guide you through the faultfinding tree by asking you questions *(e.g. Does the screen give a picture? Click on the correct answer: YES / NO)* and showing you examples *(e.g. Measure test-point I7 and click on the correct oscillogram you see on the oscilloscope)*. You can answer by clicking on a link *(e.g. text or a waveform picture)* that will bring you to the next step in the faultfinding process.

By a combination of automatic diagnostics and an interactive question / answer procedure, ComPair will enable you to find most problems in a fast and effective way.

***How To Connect***

This is described in the chassis faultfinding database in ComPair.

**Caution:** It is compulsory to connect the TV to the PC as shown in the picture below (with the ComPair interface in between), as the ComPair interface acts as a level shifter. If one connects the TV directly to the PC (via UART), ICs will be blown!

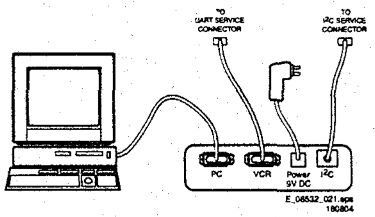


**Figure 5-5 ComPair interface connection**

***How To Order***

- ComPair order codes (EU/AP/LATAM):
- Starter kit ComPair32/SearchMan32 software and ComPair interface (excl. transformer): 3122 785 90450.
- ComPair interface (excl. transformer): 4822 727 21631.
- Starter kit ComPair32 software (registration version): 3122 785 60040.
- Starter kit SearchMan32 software: 3122 785 60050.

- ComPair32 CD (update): 3122 785 60070 (year 2002), 3122 785 60110 (year 2003 onwards).
- SearchMan32 CD (update): 3122 785 60080 (year 2002), 3122 785 60120 (year 2003), 3122 785 60130 (year 2004).
- ComPair firmware upgrade IC: 3122 785 90510.
- Transformer (non-UK): 4822 727 21632.
- Transformer (UK): 4822 727 21633.
- ComPair interface cable: 3122 785 90004.
- ComPair interface extension cable: 3139 131 03791.
- ComPair UART interface cable: 3122 785 90630.

**Note:** If you encounter any problems, contact your local support desk.

### 5.4.2 LVDS Tool

***Introduction***

This service tool (also called "ComPair Assistant 1") may help you to identify, in case the TV does not show any picture, whether the Small Signal Board (SSB) or the display of a Flat TV is defective.
Furthermore it is possible to program EPLDs with this tool (Byteblaster). Read the user manual for an explanation of this feature.

Since 2004, the LVDS output connectors in our Flat TV models are standardised (with some exceptions). With the two delivered LVDS interface cables (31p and 20p) you can cover most chassis (in special cases, an extra cable will be offered).

When operating, the tool will show a small (scaled) picture on a VGA monitor. Due to a limited memory capacity, it is not possible to increase the size when processing high-resolution LVDS signals (>= 1280x768). Generally this tool is intended to determine if the SSB is working or not. Thus to determine if LVDS, RGB, and sync signals are okay.

***How to Connect***

Connections are explained in the user manual, which is delivered with the tool.

**Note:** To use the LVDS tool, you must have ComPair release 2004-1 (or later) on your PC (engine version >= 2.2.05).
For every TV type number and screen size, one must choose the proper settings via ComPair. The ComPair file will be updated regularly with new introduced chassis information.

***How to Order***

- LVDS tool (incl. two LVDS cables: 31p and 20p): 3122 785 90671.
- Service Manual LVDS tool: 3122 785 00810.
- LVDS cable 20p (for Telra 14-inch): 3122 785 90810.
- LVDS cable 30p (for LC4.3): 3122 785 90820.
- LVDS cable 41p-to-31p for CA1 (dual -> single LVDS): 3122 785 90830.

## 5.5 Error Codes

The error code buffer contains all errors detected since the last time the buffer was erased. The buffer is written from left to right. When an error occurs that is not yet in the error code buffer, it is displayed at the left side and all other errors shift one position to the right.

### 5.5.1 How to Read the Error Buffer

You can read the error buffer in 3 ways:

- On screen via the SAM (if you have a picture).
  **Examples:**
  - ERROR: 0 0 0 0 0 : No errors detected
  - ERROR: 6 0 0 0 0 : Error code 6 is the last and only detected error
  - ERROR: 9 6 0 0 0 : Error code 6 was detected first and error code 9 is the last detected (newest) error
- Via the blinking LED procedure (when you have no picture). See "The Blinking LED Procedure".
- Via ComPair.

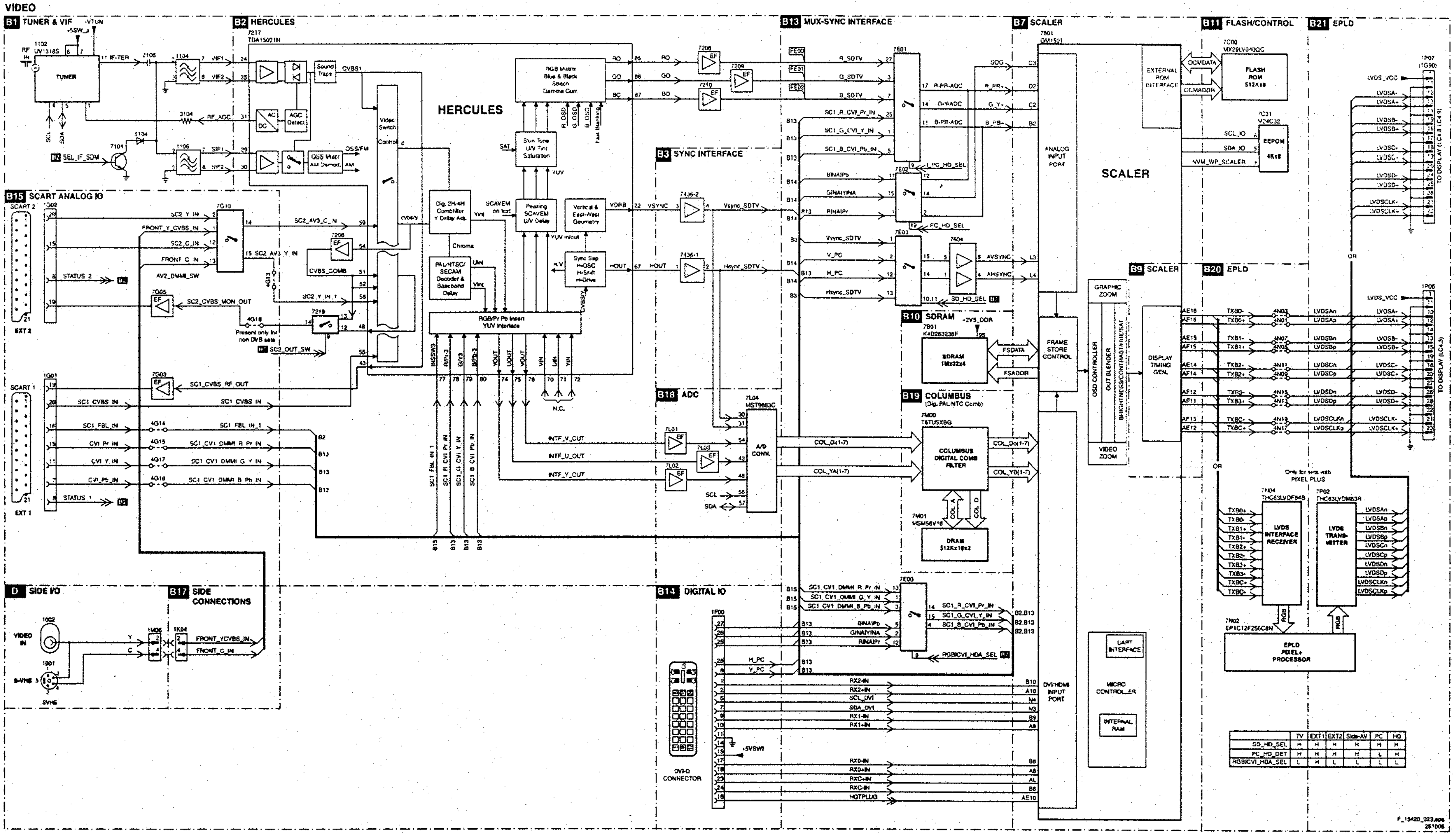
### 5.5.2 How to Clear the Error Buffer

The error code buffer is cleared in the following cases:

- By using the CLEAR command in the SAM menu:
  - To enter SAM, press the following key sequence on the remote control transmitter: "**062596**" directly followed by the OSD/STATUS button (do not allow the display to time out between entries while keying the sequence).
  - Make sure the menu item CLEAR is highlighted. Use the MENU UP/DOWN buttons, if necessary.
  - Press the MENU RIGHT button to clear the error buffer. The text on the right side of the "CLEAR" line will change from "CLEAR?" to "CLEARED"
- If the contents of the error buffer have not changed for 50 hours, the error buffer resets automatically.

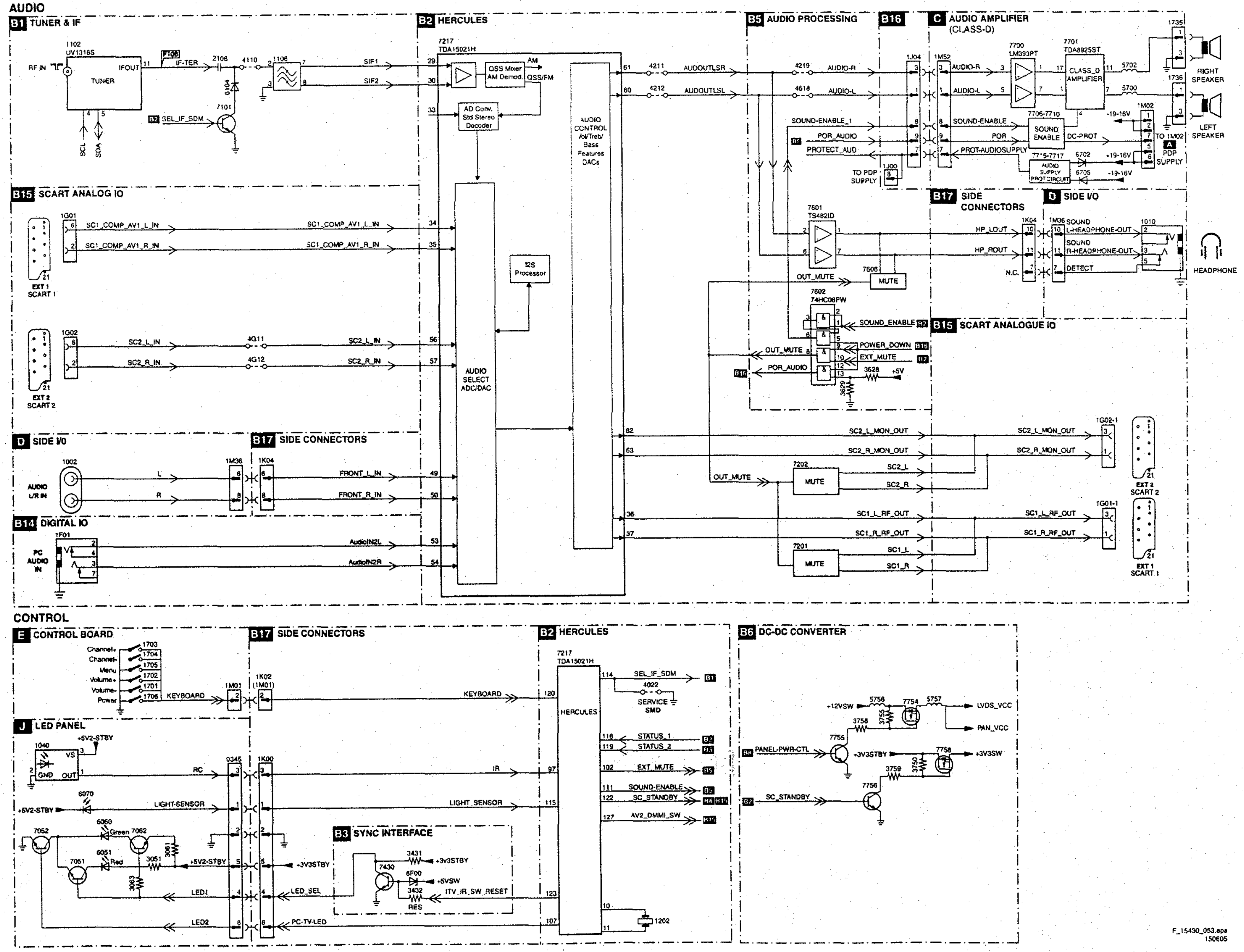
**Note:** If you exit SAM by disconnecting the mains from the television set, the error buffer is not reset.

## Block Diagram Video


VIDEO
B1 TUNER & VIF
TUNER
B2 HERCULES
7217 TDA15021H
HERCULES
B15 SCART ANALOG IO
SCART 2
EXT 2
SCART 1
EXT 1
B3 SYNC INTERFACE
B18 ADC
A/D CONV.
B13 MUX-SYNC INTERFACE
B10 SDRAM
SDRAM
B19 COLUMBUS
COLUMBUS DIGITAL COMB FILTER
DRAM
B7 SCALER
SCALER
ANALOG INPUT PORT
FRAME STORE CONTROL
DVI/HDMI INPUT PORT
MICRO CONTROLLER
INTERNAL RAM
UART INTERFACE
B9 SCALER
DISPLAY TIMING GEN.
GRAPHIC ZOOM
VIDEO ZOOM
OSD CONTROLLER
OUT BLENDER
B11 FLASH/CONTROL
FLASH ROM
EEPROM
EXTERNAL ROM INTERFACE
B21 EPLD
TO DISPLAY (LC4.9)
B20 EPLD
TO DISPLAY (LC4.3)
LVDS INTERFACE RECEIVER
LVDS TRANSMITTER
EPLD PIXEL+ PROCESSOR
Only for sets with PIXEL PLUS
D SIDE I/O
VIDEO IN
S-VHS
B17 SIDE CONNECTIONS
B14 DIGITAL IO
DVI-D CONNECTOR
F_15420_023.eps 251005

|  | TV | EXT1 | EXT2 | Side-AV | PC | HD |
|---|---|---|---|---|---|---|
| SD_HD_SEL | H | H | H | H | H | H |
| PC_HD_DET | H | H | H | H | L | H |
| RGBICVI_HDA_SEL | L | H | L | L | L | L |

## Block Diagram Audio


AUDIO
B1 TUNER & IF
1102
UV1318S
RF IN
TUNER
IFOUT
F106
IF-TER
2106
4110
1106
6104
7101
SEL_IF_SDM
SCL
SDA
SIF1
SIF2
B2 HERCULES
7217
TDA15021H
QSS Mixer AM Demod.
AM
QSS/FM
AD Conv. Std Stereo Decoder
AUDIO CONTROL Vol/Treb/Bass Features DACs
I2S Processor
AUDIO SELECT ADC/DAC
4211
AUDOUTLSR
4212
AUDOUTLSL
B5 AUDIO PROCESSING
4219
AUDIO-R
4618
AUDIO-L
SOUND-ENABLE_1
POR_AUDIO
PROTECT_AUD
1J00
TO PDP SUPPLY
B16
1J04
1M52
C AUDIO AMPLIFIER (CLASS-D)
7700
LM393PT
7701
TDA8925ST
CLASS_D AMPLIFIER
5702
5700
SOUND-ENABLE
POR
PROT-AUDIOSUPPLY
7706-7710
SOUND ENABLE
DC-PROT
7715-7717
AUDIO SUPPLY PROTECTION
6702
6705
+19-16V
-19-16V
1M02
TO 1M02
A PDP SUPPLY
1735
RIGHT SPEAKER
1736
LEFT SPEAKER
7601
TS482ID
HP_LOUT
HP_ROUT
N.C.
7608
MUTE
OUT_MUTE
7602
74HC08PW
SOUND_ENABLE
POWER_DOWN
EXT_MUTE
3628
+5V
3629
B17 SIDE CONNECTORS
1K04
D SIDE I/O
1M36
SOUND L-HEADPHONE-OUT
SOUND R-HEADPHONE-OUT
DETECT
1010
HEADPHONE
B15 SCART ANALOGUE IO
B15 SCART ANALOG IO
1G01
SC1_COMP_AV1_L_IN
SC1_COMP_AV1_R_IN
EXT 1 SCART 1
1G02
SC2_L_IN
SC2_R_IN
4G11
4G12
EXT 2 SCART 2
SC2_L_MON_OUT
SC2_R_MON_OUT
1G02-1
7202
SC2_L
SC2_R
SC1_L_RF_OUT
SC1_R_RF_OUT
1G01-1
7201
SC1_L
SC1_R
D SIDE I/O
1002
AUDIO L/R IN
L
R
B17 SIDE CONNECTORS
1M36
1K04
FRONT_L_IN
FRONT_R_IN
B14 DIGITAL IO
1F01
PC AUDIO IN
AudioIN2L
AudioIN2R
CONTROL
E CONTROL BOARD
Channel+
Channel-
Menu
Volume+
Volume-
Power
1703
1704
1705
1702
1701
1706
KEYBOARD
1M01
1K02 (1M01)
J LED PANEL
+5V2-STBY
1040
VS
GND
OUT
RC
6070
LIGHT-SENSOR
7052
6060
Green
7062
6051
Red
7051
3051
3061
3063
LED1
LED2
0345
1K00
B3 SYNC INTERFACE
3431
+3V3STBY
7430
6F00
+5VSW
3432
RES
ITV_IR_SW_RESET
LED_SEL
PC-TV-LED
B2 HERCULES
7217
TDA15021H
HERCULES
IR
LIGHT_SENSOR
SEL_IF_SDM
4022
SERVICE SMD
STATUS_1
STATUS_2
EXT_MUTE
SOUND-ENABLE
SC_STANDBY
AV2_DMMI_SW
1202
B6 DC-DC CONVERTER
+12VSW
5756
3755
7754
5757
LVDS_VCC
PAN_VCC
3758
7755
PANEL-PWR-CTL
+3V3STBY
3750
7758
+3V3SW
3759
7756
SC_STANDBY

F_15430_053.eps
150605

## Testpoint Overview SSB (Top Side)

| | |
|---|---|
| F101 | C1 |
| F102 | D2 |
| F103 | C1 |
| F104 | D2 |
| F105 | D1 |
| F106 | D2 |
| F107 | C1 |
| F108 | C2 |
| F109 | C2 |
| F110 | B2 |
| F111 | B2 |
| F112 | B2 |
| F113 | B2 |
| F114 | C2 |
| F115 | D2 |
| F116 | D2 |
| F117 | D2 |
| F201 | A2 |
| F202 | A2 |
| F203 | A2 |
| F204 | B3 |
| F205 | B2 |
| F206 | B2 |
| F207 | B2 |
| F208 | B2 |
| F209 | B2 |
| F210 | C2 |
| F211 | A2 |
| F212 | A2 |
| F213 | A2 |
| F214 | A2 |
| F215 | A2 |
| F216 | B3 |
| F218 | A2 |
| F219 | A2 |
| F220 | A3 |
| F221 | A3 |
| F222 | B2 |
| F223 | B2 |
| F224 | A2 |
| F225 | A3 |
| F226 | A3 |
| F227 | C3 |
| F228 | A3 |
| F229 | B2 |
| F230 | A3 |
| F231 | A2 |
| F232 | B3 |
| F233 | B3 |
| F234 | B3 |
| F235 | B3 |
| F236 | C3 |
| F237 | B2 |
| F238 | B2 |
| F239 | B2 |
| F240 | B2 |
| F241 | B3 |
| F242 | B2 |
| F243 | B2 |
| F244 | B2 |
| F245 | A2 |
| F246 | B2 |
| F247 | A2 |
| F248 | B2 |
| F249 | B2 |
| F250 | B3 |
| F501 | A2 |
| F502 | A2 |
| F503 | A2 |
| F504 | A2 |
| F505 | A3 |
| F601 | A1 |
| F602 | A2 |
| F603 | A1 |
| F604 | A2 |
| F605 | A2 |
| F700 | A6 |
| F701 | A5 |
| F710 | A5 |
| F736 | A3 |
| F737 | A3 |
| F738 | A3 |
| F743 | B3 |
| F754 | A5 |
| F755 | A6 |
| F800 | B7 |
| F801 | B6 |
| F802 | C5 |
| F803 | B5 |
| F804 | B5 |
| F900 | C5 |
| F901 | C5 |
| F902 | C6 |
| F903 | C5 |
| F904 | C6 |
| F905 | B6 |
| F906 | B6 |
| F907 | B5 |
| F908 | C5 |
| F909 | C5 |
| F910 | C6 |
| FB01 | B7 |
| FC00 | B5 |
| FC01 | B5 |
| FC02 | B5 |
| FC03 | B5 |
| FC04 | B5 |
| FC05 | C5 |
| FC06 | B5 |
| FC07 | B4 |
| FC08 | B5 |
| FC09 | B5 |
| FC10 | B4 |
| FD00 | C7 |
| FD01 | D7 |
| FD02 | D7 |
| FD03 | D7 |
| FD04 | C7 |
| FD05 | C6 |
| FD06 | C6 |
| FD07 | C7 |
| FD08 | C7 |
| FD09 | C7 |
| FD10 | C7 |
| FD11 | D7 |
| FD12 | C7 |
| FD13 | C7 |
| FD14 | C7 |
| FD15 | C7 |
| FD16 | C7 |
| FD17 | B6 |
| FE00 | C5 |
| FE01 | C5 |
| FE02 | C4 |
| FE03 | B5 |
| FE04 | D5 |
| FE05 | C5 |
| FE06 | D5 |
| FE07 | B7 |
| FE08 | C4 |
| FE09 | C5 |
| FE10 | C4 |
| FE11 | C5 |
| FE12 | C5 |
| FE13 | C5 |
| FF00 | D6 |
| FF01 | D6 |
| FF02 | D4 |
| FF03 | D7 |
| FF04 | D7 |
| FF05 | D7 |
| FF06 | D6 |
| FF07 | D6 |
| FF08 | D3 |
| FF09 | D7 |
| FF10 | D6 |
| FF11 | D6 |
| FF12 | D6 |
| FF13 | D6 |
| FG00 | D4 |
| FG01 | D4 |
| FG02 | D3 |
| FG03 | D4 |
| FG04 | D3 |
| FG05 | D3 |
| FG06 | D3 |
| FG07 | D3 |
| FG08 | D3 |
| FG09 | D3 |
| FG10 | D2 |
| FG11 | D3 |
| FG12 | D2 |
| FG13 | D2 |
| FG14 | D6 |
| FG15 | D5 |
| FG16 | D6 |
| FG17 | D6 |
| FG18 | D5 |
| FG19 | D5 |
| FG20 | D5 |
| FG21 | D5 |
| FG22 | D5 |
| FG23 | D4 |
| FG24 | D3 |
| FG25 | D3 |
| FG26 | D5 |
| FG27 | D5 |
| FG28 | D5 |
| FG30 | D5 |
| FG32 | D3 |
| FG33 | D3 |
| FG34 | D3 |
| FG35 | D3 |
| FG36 | D4 |
| FG37 | D3 |
| FG38 | D3 |
| FG39 | D4 |
| FG40 | D7 |
| FG41 | D3 |
| FG42 | D4 |
| FG43 | D4 |
| FG44 | D4 |
| FG45 | D4 |
| FG47 | D4 |
| FG48 | D4 |
| FG49 | D4 |
| FG50 | D4 |
| FG51 | C2 |
| FG53 | D4 |
| FG54 | D4 |
| FG56 | D4 |
| FJ00 | A7 |
| FJ01 | A5 |
| FJ02 | A4 |
| FJ03 | A5 |
| FJ04 | A5 |
| FJ05 | A4 |
| FJ06 | A4 |
| FJ07 | A5 |
| FJ08 | A4 |
| FJ09 | A2 |
| FJ10 | A2 |
| FJ11 | A4 |
| FJ12 | A2 |
| FJ13 | A2 |
| FJ14 | A2 |
| FJ15 | A7 |
| FJ16 | A7 |
| FJ17 | A7 |
| FJ18 | A7 |
| FJ19 | A7 |
| FJ20 | A7 |
| FJ21 | A5 |
| FJ22 | A5 |
| FJ23 | A5 |
| FJ24 | A5 |
| FJ25 | A5 |
| FJ26 | A5 |
| FK00 | B1 |
| FK01 | B1 |
| FK02 | B1 |
| FK03 | B1 |
| FK04 | B1 |
| FK05 | B1 |
| FK06 | B1 |
| FK07 | C1 |
| FK08 | C1 |
| FK09 | C1 |
| FK10 | B1 |
| FK11 | A1 |
| FM01 | C4 |
| FM02 | C4 |
| FM03 | C4 |
| FM04 | C4 |
| FM05 | C4 |
| FN01 | A6 |
| FN02 | A6 |
| FN03 | A6 |
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| FN05 | A7 |
| FN06 | A7 |
| FN07 | A7 |
| FN08 | A7 |
| FN09 | A7 |
| FN10 | A7 |
| FN11 | B6 |
| FN12 | A6 |
| FN13 | A6 |
| FN14 | A6 |
| FN15 | A6 |
| FN16 | A6 |
| FN17 | A6 |
| FN18 | B6 |
| FN19 | B5 |
| FN20 | A7 |
| FN21 | A7 |
| FN22 | A7 |
| FN23 | A7 |
| FN24 | A6 |
| FN25 | B6 |
| FN26 | A7 |
| FN27 | A7 |
| FN28 | A7 |
| FN29 | A7 |
| FN30 | A7 |
| FN31 | A7 |
| FN32 | A7 |
| FN33 | A7 |
| FN34 | A7 |
| FN35 | A7 |
| FP01 | A6 |
| FP02 | A6 |
| FP03 | A6 |
| FP04 | A6 |
| FP05 | A6 |
| FP06 | A6 |
| FP07 | A6 |
| FP08 | A7 |
| FP09 | A7 |
| FP10 | A7 |
| FP11 | A7 |
| FP12 | A7 |
| FP13 | A6 |
| FP14 | A7 |
| FP15 | A6 |
| FP16 | A6 |
| FP17 | A7 |
| I101 | D2 |
| I102 | C2 |
| I103 | C2 |
| I104 | C2 |
| I105 | C2 |
| I106 | C2 |
| I107 | C2 |
| I108 | C2 |
| I109 | C2 |
| I110 | C2 |
| I111 | C1 |
| I112 | D2 |
| I113 | D2 |
| I201 | A2 |
| I202 | A2 |
| I203 | B2 |
| I204 | B2 |
| I205 | B2 |
| I206 | B2 |
| I207 | B2 |
| I208 | B2 |
| I209 | B2 |
| I210 | A3 |
| I211 | A3 |
| I212 | A3 |
| I213 | A2 |
| I214 | B2 |
| I215 | A2 |
| I216 | B2 |
| I217 | B3 |
| I218 | A3 |
| I219 | B3 |
| I220 | B3 |
| I221 | A2 |
| I222 | A2 |
| I223 | A2 |
| I224 | A3 |
| I225 | A2 |
| I226 | B2 |
| I227 | B2 |
| I228 | B3 |
| I229 | B2 |
| I230 | A3 |
| I231 | B2 |
| I232 | A2 |
| I233 | B2 |
| I234 | B2 |
| I235 | B2 |
| I236 | B2 |
| I237 | B2 |
| I238 | A2 |
| I239 | A3 |
| I240 | A3 |
| I241 | A2 |
| I242 | A2 |
| I243 | A3 |
| I244 | B3 |
| I246 | A3 |
| I247 | A3 |
| I248 | A3 |
| I254 | C3 |
| I255 | B3 |
| I256 | B3 |
| I257 | B3 |
| I258 | B2 |
| I259 | B3 |
| I262 | B2 |
| I264 | A2 |
| I265 | B3 |
| I266 | B3 |
| I267 | B3 |
| I268 | B3 |
| I269 | A2 |
| I270 | B3 |
| I271 | A3 |
| I272 | B3 |
| I273 | C3 |
| I274 | A1 |
| I275 | A3 |
| I277 | A3 |
| I278 | A3 |
| I283 | B3 |
| I284 | B3 |
| I285 | B3 |
| I288 | B3 |
| I289 | A2 |
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| I291 | A2 |
| I292 | A2 |
| I293 | A2 |
| I294 | A2 |
| I297 | A1 |
| I298 | B3 |
| I430 | A1 |
| I440 | B3 |
| I443 | B3 |
| I449 | A3 |
| I450 | A3 |
| I451 | A3 |
| I452 | A3 |
| I453 | A1 |
| I454 | A1 |
| I501 | A3 |
| I502 | A3 |
| I503 | A2 |
| I504 | A2 |
| I505 | A2 |
| I602 | A1 |
| I603 | A2 |
| I604 | A1 |
| I605 | A2 |
| I606 | A2 |
| I607 | A1 |
| I608 | A1 |
| I610 | A1 |
| I611 | B1 |
| I612 | A1 |
| I613 | A1 |
| I614 | A1 |
| I615 | A1 |
| I616 | A1 |
| I617 | A2 |
| I618 | A1 |
| I619 | A1 |
| I705 | A3 |
| I706 | A4 |
| I708 | A5 |
| I709 | A5 |
| I710 | A4 |
| I711 | A4 |
| I712 | A4 |
| I713 | A4 |
| I714 | A4 |
| I715 | A4 |
| I716 | A4 |
| I731 | A4 |
| I732 | A3 |
| I733 | A3 |
| I734 | A3 |
| I735 | A3 |
| I736 | A3 |
| I740 | B3 |
| I741 | B3 |
| I742 | B3 |
| I747 | A5 |
| I748 | A5 |
| I749 | A5 |
| I750 | A6 |
| I751 | A5 |
| I752 | A5 |
| I753 | A5 |
| I754 | A5 |
| I755 | A5 |
| I756 | A6 |
| I757 | A5 |
| I758 | A5 |
| I759 | A5 |
| I760 | A6 |
| I800 | C6 |
| I801 | C5 |
| I802 | B5 |
| I803 | B5 |
| I804 | B6 |
| I805 | B5 |
| I806 | B5 |
| I807 | B5 |
| I808 | B5 |
| I809 | B5 |
| I810 | B5 |
| I811 | C7 |
| I812 | C6 |
| I813 | B7 |
| I815 | C6 |
| I816 | C6 |
| I817 | C6 |
| I818 | C4 |
| I819 | B5 |
| I820 | B6 |
| I821 | B5 |
| I822 | B5 |
| I900 | B7 |
| I901 | B6 |
| I902 | C6 |
| I903 | C6 |
| I904 | B6 |
| I905 | B6 |
| I906 | C5 |
| IA00 | C6 |
| IA03 | B4 |
| IA05 | C6 |
| IA06 | C6 |
| IA07 | C6 |
| IA08 | B5 |
| IA09 | B6 |
| IB02 | B7 |
| IB03 | B7 |
| ID00 | C7 |
| ID01 | D7 |
| ID02 | C7 |
| ID03 | C7 |
| ID04 | C7 |
| ID05 | C7 |
| ID06 | C7 |
| ID07 | C7 |
| ID08 | C7 |
| ID09 | C7 |
| ID10 | C7 |
| ID11 | C7 |
| ID12 | C7 |
| ID13 | C6 |
| ID14 | C6 |
| ID15 | C7 |
| ID16 | C7 |
| ID17 | C7 |
| ID18 | C7 |
| ID19 | C7 |
| ID20 | C7 |
| ID21 | C7 |
| ID22 | C6 |
| IE00 | D4 |
| IE01 | C4 |
| IE02 | D5 |
| IE03 | C6 |
| IE04 | C5 |
| IE05 | C5 |
| IE06 | C4 |
| IE07 | C4 |
| IE08 | C4 |
| IE09 | C5 |
| IE10 | C5 |
| IE11 | C5 |
| IE12 | C5 |
| IE13 | D5 |
| IE14 | D4 |
| IE15 | D4 |
| IE16 | C4 |
| IE17 | C4 |
| IE18 | C4 |
| IE19 | D5 |
| IE20 | D5 |
| IE21 | D5 |
| IE22 | D5 |
| IE23 | C5 |
| IE24 | C5 |
| IE25 | D5 |
| IE26 | D5 |
| IE27 | C5 |
| IE28 | C4 |
| IE29 | C4 |
| IE30 | C4 |
| IE31 | C5 |
| IE32 | C5 |
| IE33 | C5 |
| IE34 | C5 |
| IE35 | D5 |
| IE36 | C5 |
| IE37 | C5 |
| IF00 | D7 |
| IF01 | D7 |
| IF02 | D7 |
| IF03 | D7 |
| IF04 | D6 |
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| IF06 | D7 |
| IF07 | D7 |
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| IF13 | D7 |
| IF14 | D7 |
| IF15 | D6 |
| IF17 | D7 |
| IF20 | D7 |
| IF21 | D4 |
| IF22 | D6 |
| IF23 | D6 |
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| IG02 | D4 |
| IG03 | D4 |
| IG04 | D3 |
| IG05 | D3 |
| IG06 | D3 |
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| IG08 | D3 |
| IG09 | D3 |
| IG10 | D3 |
| IG11 | D3 |
| IG12 | D3 |
| IG13 | D2 |
| IG14 | D6 |
| IG15 | D5 |
| IG16 | D6 |
| IG17 | D5 |
| IG18 | D6 |
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| IG20 | D6 |
| IG21 | D5 |
| IG23 | D5 |
| IG24 | D5 |
| IG25 | D5 |
| IG26 | D5 |
| IG27 | D4 |
| IG28 | D3 |
| IG29 | D3 |
| IG30 | D3 |
| IG40 | D5 |
| IG42 | D5 |
| IG43 | D4 |
| IG46 | D5 |
| IG47 | D5 |
| IG49 | D4 |
| IG50 | D4 |
| IG52 | D5 |
| IG53 | D5 |
| IG54 | D5 |
| IG55 | D5 |
| IG56 | D5 |
| IG57 | D5 |
| IG58 | D5 |
| IG59 | D4 |
| IG60 | D3 |
| IG61 | D2 |
| IG62 | D2 |
| IG63 | D3 |
| IG64 | D3 |
| IG67 | D3 |
| IG69 | D3 |
| IG73 | D4 |
| IG75 | D5 |
| IG76 | D6 |
| IG78 | D5 |
| IG79 | D5 |
| IG80 | D5 |
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| IJ02 | A3 |
| IJ03 | A4 |
| IJ04 | A3 |
| IJ05 | A3 |
| IJ06 | A3 |
| IJ07 | A3 |
| IJ08 | A3 |
| IJ09 | A3 |
| IJ10 | A3 |
| IJ11 | A3 |
| IJ12 | A3 |
| IJ13 | A3 |
| IK00 | A1 |
| IK01 | A1 |
| IK02 | A1 |
| IK03 | A1 |
| IK16 | A1 |
| IK17 | B1 |
| IK18 | B1 |
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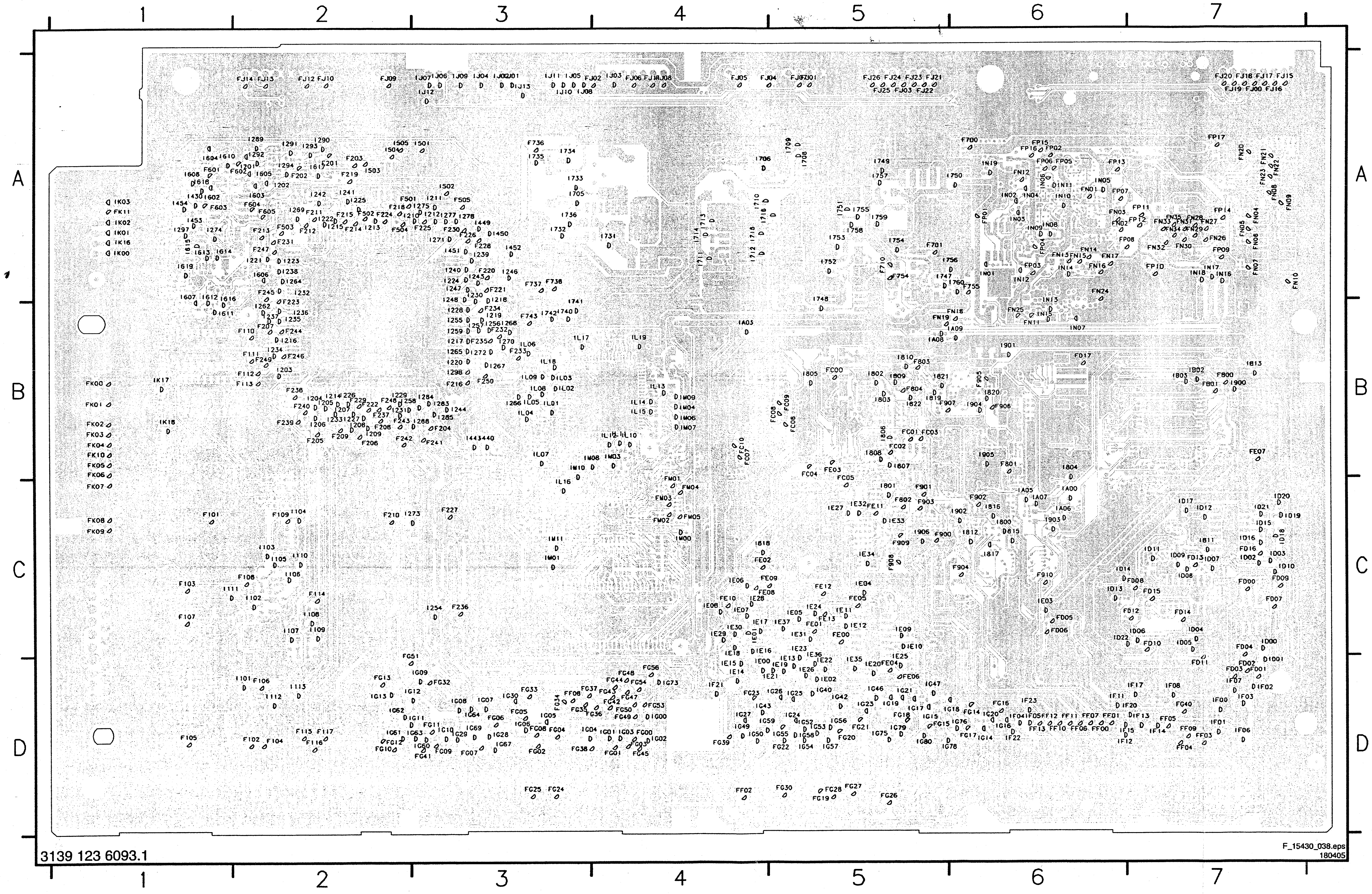
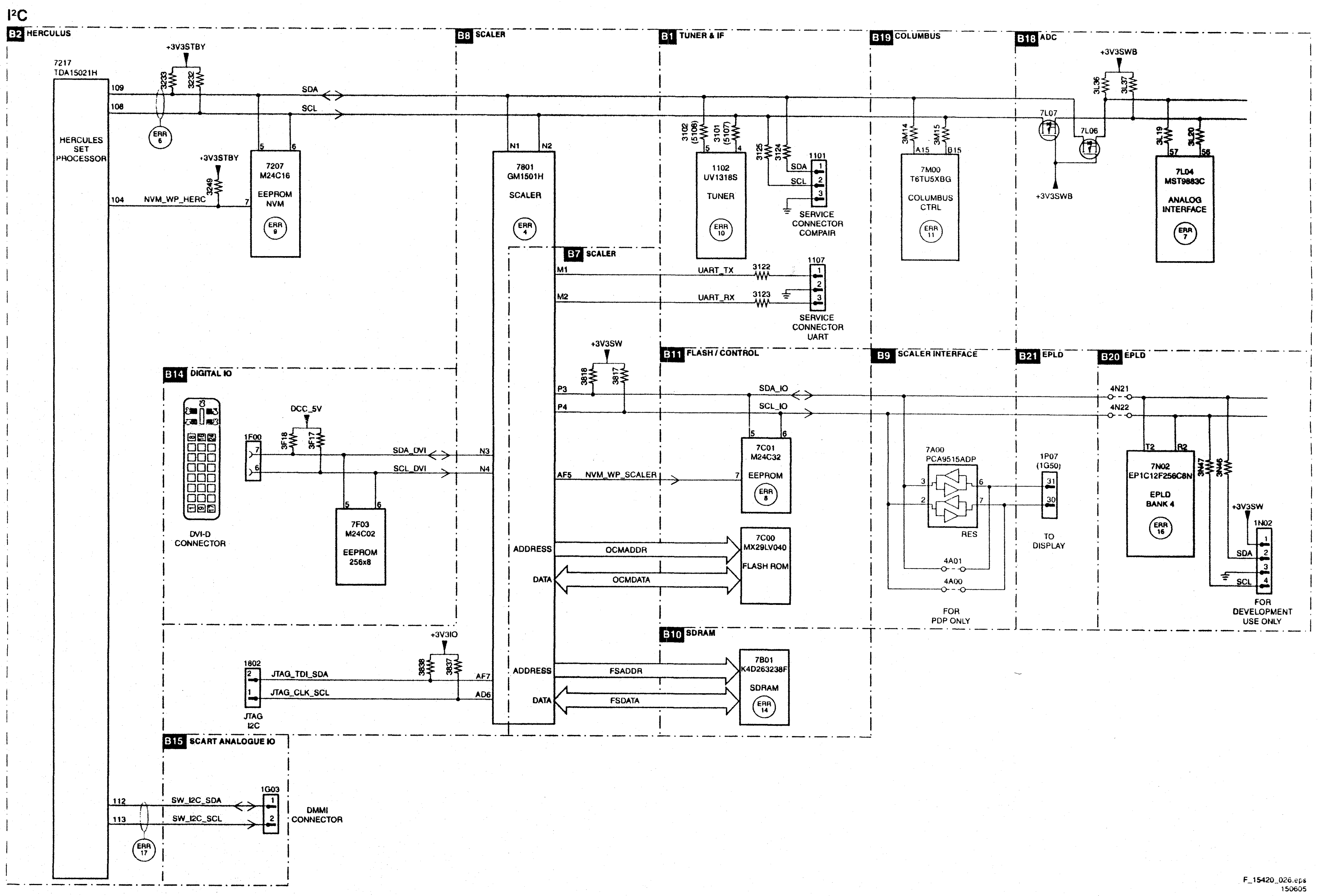
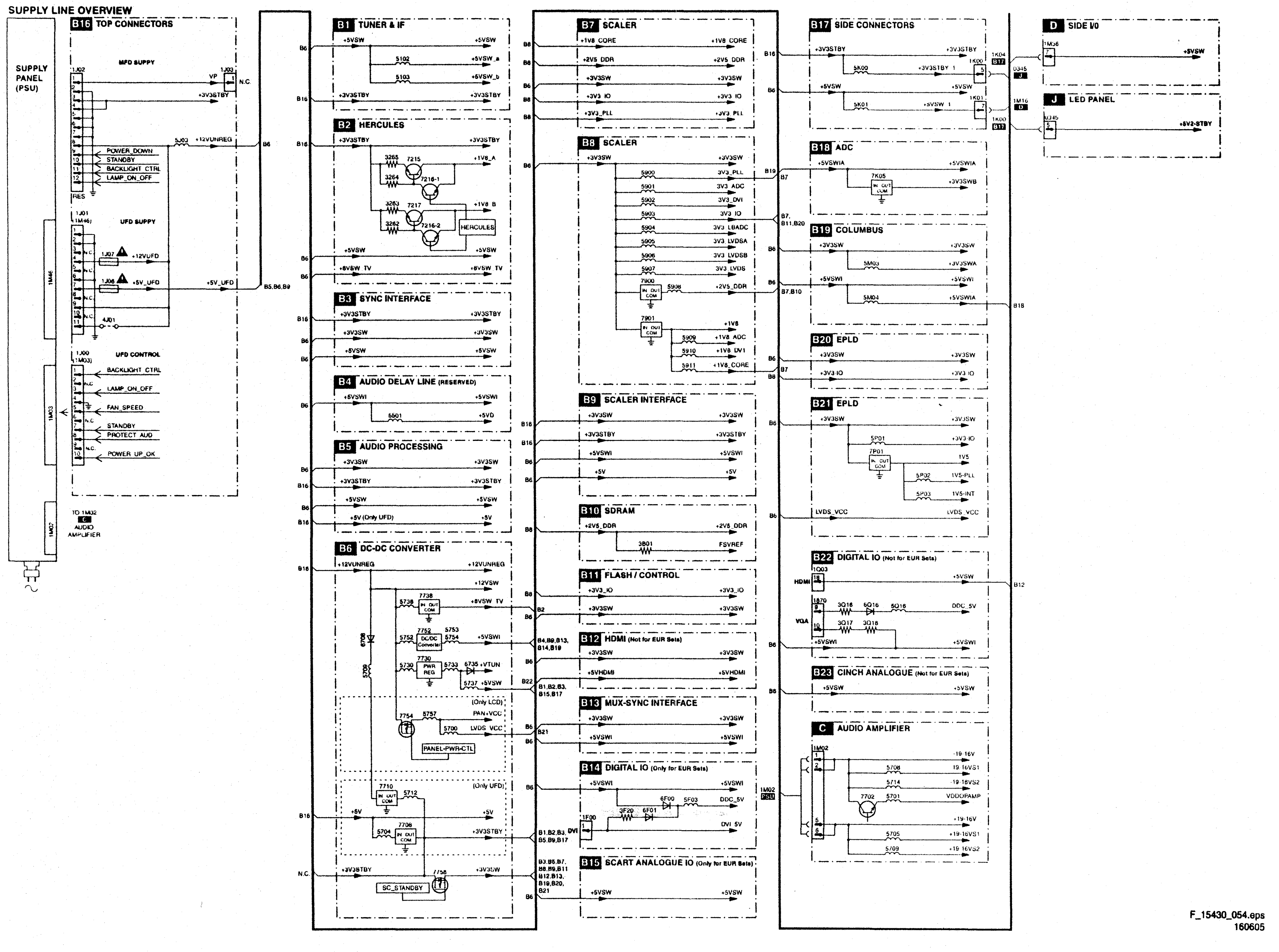
| IL02 | B3 |
| IL03 | B3 |
| IL04 | B3 |
| IL05 | B3 |
| IL06 | B3 |
| IL07 | B3 |
| IL08 | B3 |
| IL09 | B3 |
| IL10 | B4 |
| IL11 | B4 |
| IL12 | B4 |
| IL13 | B4 |
| IL14 | B4 |
| IL15 | B4 |
| IL16 | C3 |
| IL17 | B3 |
| IL18 | B3 |
| IL19 | B4 |
| IM00 | C4 |
| IM01 | C3 |
| IM03 | B4 |
| IM04 | B4 |
| IM06 | B4 |
| IM07 | B4 |
| IM08 | B4 |
| IM09 | B4 |
| IM10 | B3 |
| IM11 | C3 |
| IN01 | A6 |
| IN02 | A6 |
| IN03 | A6 |
| IN04 | A6 |
| IN05 | A6 |
| IN06 | A6 |
| IN07 | B6 |
| IN08 | A6 |
| IN09 | A6 |
| IN10 | A6 |
| IN11 | A6 |
| IN12 | A6 |
| IN13 | B6 |
| IN14 | A6 |
| IN15 | B6 |
| IN16 | A7 |
| IN17 | A7 |
| IN18 | A7 |
| IN19 | A6 |



## I2C IC Overview

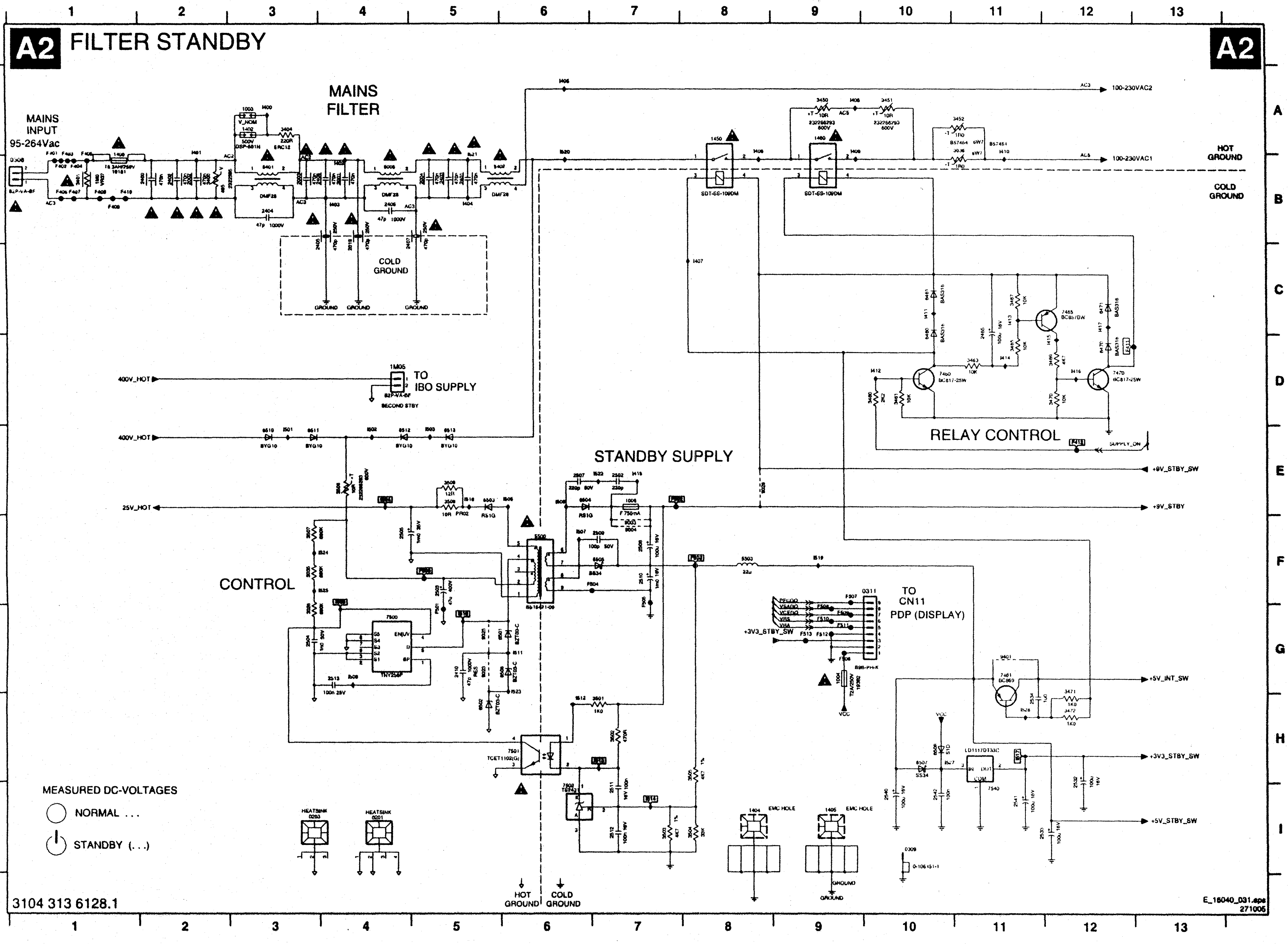

I²C
B2 HERCULUS
7217 TDA15021H
HERCULES SET PROCESSOR
+3V3STBY
SDA
SCL
NVM_WP_HERC
7207 M24C16 EEPROM NVM
ERR 6
ERR 9
B8 SCALER
7801 GM1501H SCALER
ERR 4
B7 SCALER
B1 TUNER & IF
1102 UV1318S TUNER
ERR 10
1101 SERVICE CONNECTOR COMPAIR
UART_TX
UART_RX
1107 SERVICE CONNECTOR UART
B19 COLUMBUS
7M00 T6TU5XBG COLUMBUS CTRL
ERR 11
B18 ADC
+3V3SWB
7L04 MST9883C ANALOG INTERFACE
ERR 7
B14 DIGITAL IO
DVI-D CONNECTOR
DCC_5V
SDA_DVI
SCL_DVI
7F03 M24C02 EEPROM 256x8
B11 FLASH / CONTROL
+3V3SW
SDA_IO
SCL_IO
7C01 M24C32 EEPROM
ERR 8
NVM_WP_SCALER
7C00 MX29LV040 FLASH ROM
ADDRESS
DATA
OCMADDR
OCMDATA
B9 SCALER INTERFACE
7A00 PCA9515ADP
RES
FOR PDP ONLY
B21 EPLD
1P07 (1G50)
TO DISPLAY
B20 EPLD
7N02 EP1C12F256C8N EPLD BANK 4
ERR 16
1N02
FOR DEVELOPMENT USE ONLY
B10 SDRAM
+3V3IO
7B01 K4D263238F SDRAM
ERR 14
FSADDR
FSDATA
JTAG_TDI_SDA
JTAG_CLK_SCL
JTAG I2C
B15 SCART ANALOGUE IO
SW_I2C_SDA
SW_I2C_SCL
1G03 DMMI CONNECTOR
ERR 17
F_15420_026.eps 150605

## Supply Voltage Overview


SUPPLY LINE OVERVIEW
SUPPLY PANEL (PSU)
B16 TOP CONNECTORS
MFD SUPPY
UFD SUPPY
UFD CONTROL
POWER_DOWN
STANDBY
BACKLIGHT_CTRL
LAMP_ON_OFF
FAN_SPEED
PROTECT_AUD
POWER_UP_OK
TO 1M02 C AUDIO AMPLIFIER
B1 TUNER & IF
B2 HERCULES
B3 SYNC INTERFACE
B4 AUDIO DELAY LINE (RESERVED)
B5 AUDIO PROCESSING
B6 DC-DC CONVERTER
SC_STANDBY
PANEL-PWR-CTL
B7 SCALER
B8 SCALER
B9 SCALER INTERFACE
B10 SDRAM
B11 FLASH / CONTROL
B12 HDMI (Not for EUR Sets)
B13 MUX-SYNC INTERFACE
B14 DIGITAL IO (Only for EUR Sets)
B15 SCART ANALOGUE IO (Only for EUR Sets)
B17 SIDE CONNECTORS
B18 ADC
B19 COLUMBUS
B20 EPLD
B21 EPLD
B22 DIGITAL IO (Not for EUR Sets)
B23 CINCH ANALOGUE (Not for EUR Sets)
C AUDIO AMPLIFIER
D SIDE I/O
J LED PANEL
F_15430_054.eps 160605

# 7. Circuit Diagrams and PWB Layouts

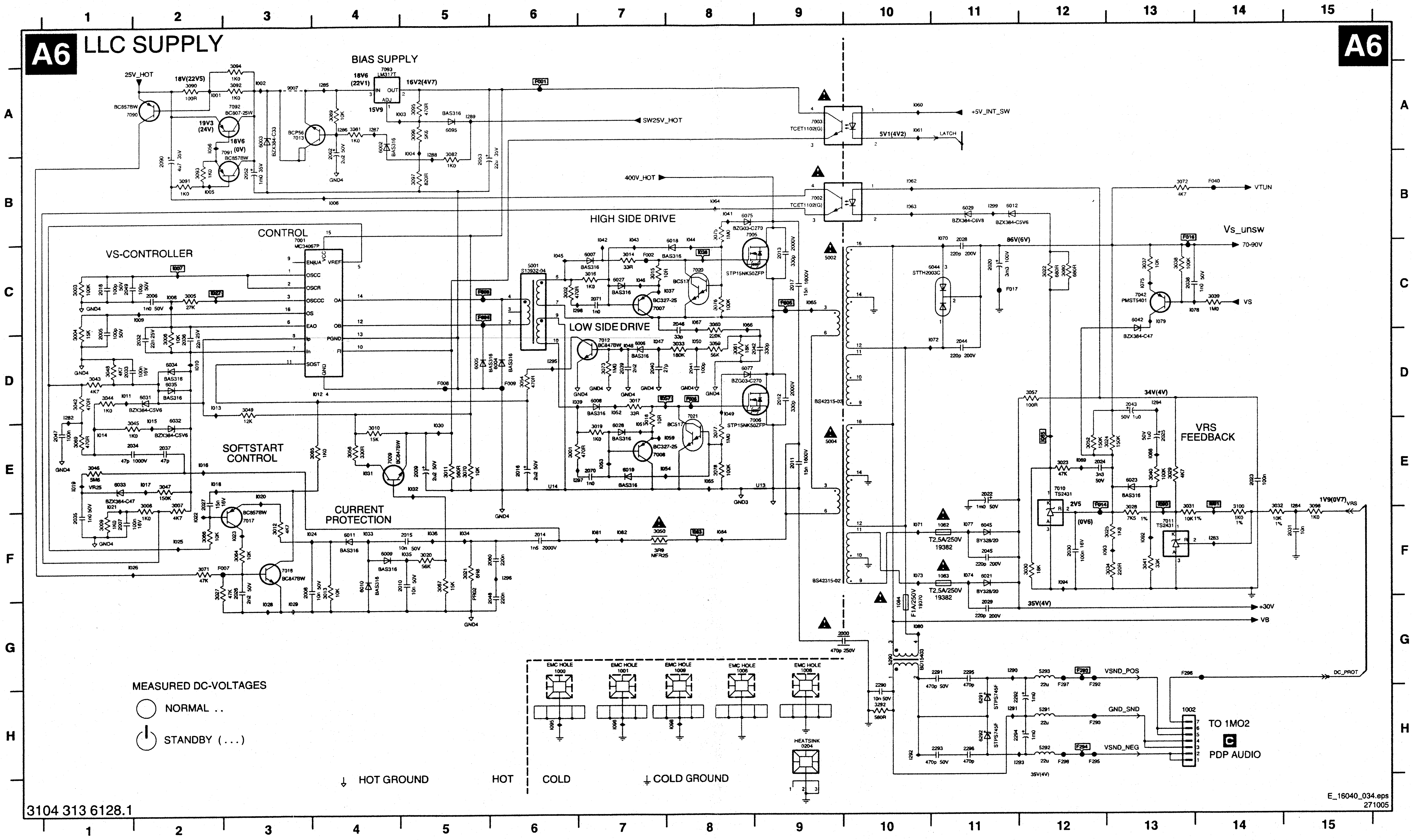
## PDP FHP Supply: Filter Standby


A2 FILTER STANDBY
A2
MAINS INPUT
95-264Vac
MAINS FILTER
COLD GROUND
HOT GROUND
100-230VAC2
100-230VAC1
SDT-SS-109DM
RELAY CONTROL
SUPPLY_ON
400V_HOT
TO IBO SUPPLY
SECOND STBY
STANDBY SUPPLY
+9V_STBY_SW
+9V_STBY
25V_HOT
CONTROL
TNY254P
TO CN11 PDP (DISPLAY)
+3V3_STBY_SW
+5V_INT_SW
+3V3_STBY_SW
+5V_STBY_SW
LD1117DT33C
TCET1102(G)
EMC HOLE
HEATSINK
GROUND
MEASURED DC-VOLTAGES
NORMAL ...
STANDBY (...)
3104 313 6128.1
E_15040_031.eps
271005
1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I

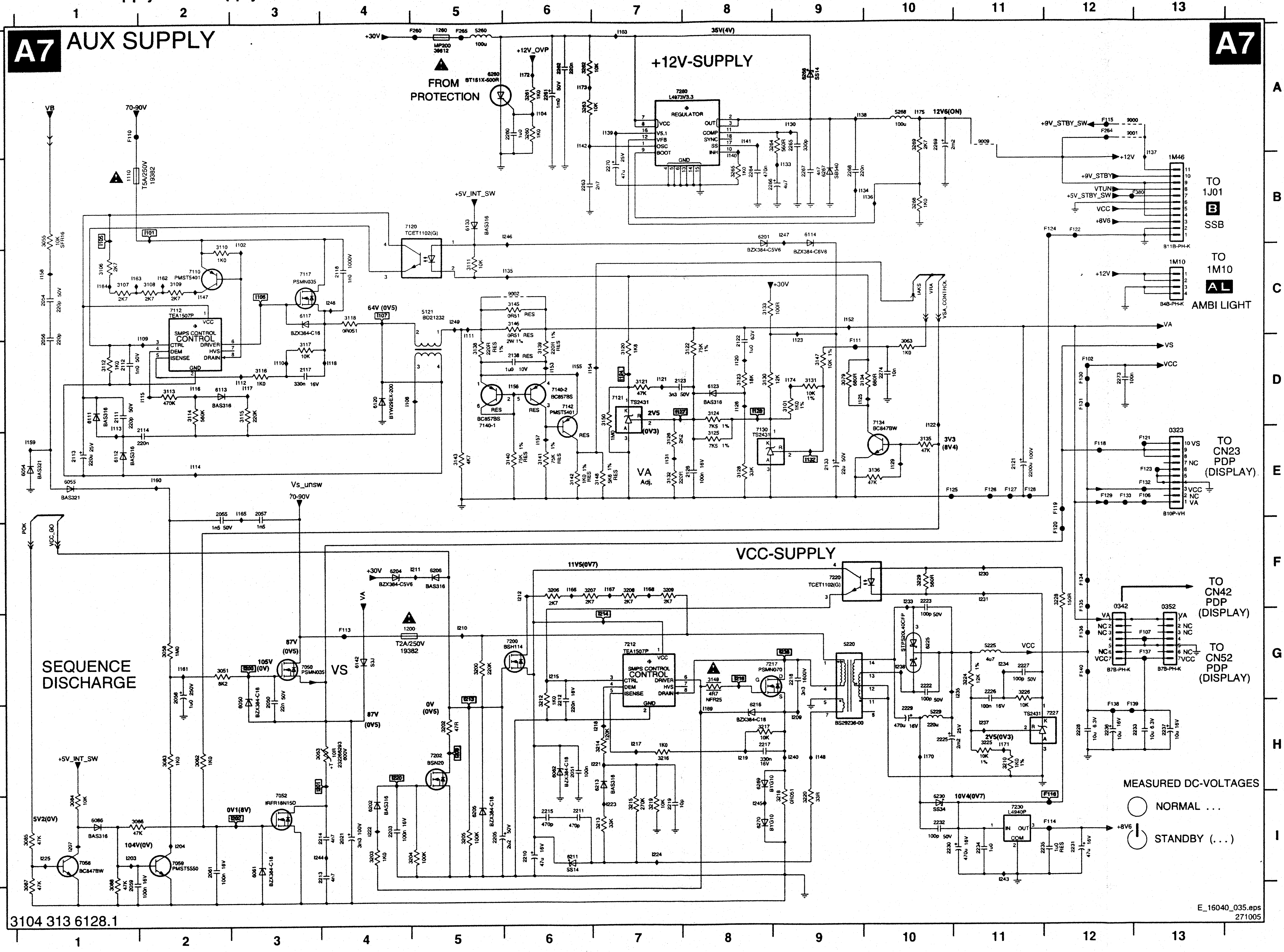
| | |
|---|---|
| 0201 | I4 |
| 0203 | I3 |
| 0308 | B1 |
| 0309 | I10 |
| 0311 | F10 |
| 1003 | A3 |
| 1004 | G9 |
| 1005 | E7 |
| 1400 | B1 |
| 1402 | A3 |
| 1404 | I8 |
| 1405 | I9 |
| 1450 | A8 |
| 1460 | A9 |
| 1M05 | D4 |
| 2001 | B4 |
| 2002 | B2 |
| 2003 | B3 |
| 2004 | B5 |
| 2019 | C4 |
| 2400 | B2 |
| 2401 | B5 |
| 2402 | B2 |
| 2403 | B5 |
| 2404 | B3 |
| 2405 | C4 |
| 2406 | B4 |
| 2407 | C5 |
| 2408 | B4 |
| 2410 | G5 |
| 2465 | C11 |
| 2502 | E7 |
| 2503 | F5 |
| 2504 | G3 |
| 2505 | F4 |
| 2507 | E6 |
| 2508 | F7 |
| 2509 | F7 |
| 2510 | F7 |
| 2511 | I7 |
| 2512 | I7 |
| 2513 | G4 |
| 2532 | H12 |
| 2533 | I11 |
| 2534 | H11 |
| 2540 | I10 |
| 2541 | I11 |
| 2542 | I10 |
| 3026 | G3 |
| 3035 | F3 |
| 3036 | A11 |
| 3400 | B2 |
| 3401 | B1 |
| 3404 | A3 |
| 3450 | A9 |
| 3451 | A10 |
| 3452 | A11 |
| 3460 | D10 |
| 3461 | D10 |
| 3463 | D11 |
| 3465 | D11 |
| 3467 | C11 |
| 3469 | D12 |
| 3470 | D12 |
| 3471 | G12 |
| 3472 | H12 |
| 3501 | H7 |
| 3502 | H7 |
| 3503 | I7 |
| 3504 | I8 |
| 3505 | H8 |
| 3506 | E4 |
| 3507 | F3 |
| 3508 | E5 |
| 3509 | E5 |
| 5005 | B4 |
| 5401 | B3 |
| 5402 | B5 |
| 5500 | F6 |
| 5503 | F8 |
| 6460 | C10 |
| 6461 | C10 |
| 6470 | D12 |
| 6471 | C12 |
| 6501 | G6 |
| 6502 | H5 |
| 6503 | E5 |
| 6504 | E6 |
| 6505 | F7 |
| 6506 | G6 |
| 6507 | H10 |
| 6508 | H10 |
| 6510 | E3 |
| 6511 | E3 |
| 6512 | E4 |
| 6513 | E5 |
| 7460 | D10 |
| 7461 | G11 |
| 7465 | C12 |
| 7470 | D12 |
| 7500 | G4 |
| 7501 | H6 |
| 7502 | I6 |
| 7540 | I11 |
| 9003 | F7 |
| 9004 | F7 |
| 9023 | G5 |
| 9025 | G5 |
| 9028 | E8 |
| 9401 | G11 |
| F401 | A1 |
| F402 | B1 |
| F403 | B1 |
| F404 | B1 |
| F405 | B1 |
| F406 | B1 |
| F407 | B1 |
| F408 | B1 |
| F409 | B1 |
| F410 | B1 |
| F411 | D12 |
| F412 | E12 |
| F500 | F5 |
| F501 | G5 |
| F502 | E7 |
| F503 | F8 |
| F504 | F7 |
| F505 | F7 |
| F506 | G9 |
| F507 | F9 |
| F508 | G9 |
| F509 | G9 |
| F510 | G9 |
| F511 | G9 |
| F512 | G9 |
| F513 | G9 |
| I400 | A3 |
| I401 | A2 |
| I402 | B4 |
| I403 | B4 |
| I404 | B5 |
| I405 | A6 |
| I406 | A8 |
| I407 | C8 |
| I408 | A9 |
| I409 | A9 |
| I410 | A11 |
| I411 | C10 |
| I412 | D10 |
| I413 | C11 |
| I414 | D11 |
| I415 | D12 |
| I416 | D12 |
| I417 | C12 |
| I418 | E7 |
| I501 | E3 |
| I502 | E4 |
| I503 | E5 |
| I504 | E4 |
| I505 | E6 |
| I506 | E6 |
| I507 | F6 |
| I508 | F4 |
| I509 | G4 |
| I510 | G5 |
| I511 | G6 |
| I512 | H6 |
| I513 | H7 |
| I514 | I7 |
| I517 | H11 |
| I518 | E5 |
| I519 | F9 |
| I520 | A6 |
| I521 | A5 |
| I522 | E7 |
| I523 | G6 |
| I524 | F4 |
| I525 | F4 |
| I526 | H11 |
| I527 | H10 |

## PDP FHP Supply: LLC Supply

| | |
|---|---|
| U13 | E9 |
| U14 | E6 |
| 0204 | H9 |
| 1000 | G6 |
| 1001 | G7 |
| 1002 | H14 |
| 1006 | G8 |
| 1008 | G9 |
| 1009 | G8 |
| 1062 | F11 |
| 1083 | F11 |
| 1084 | G10 |
| 2000 | G9 |
| 2005 | C1 |
| 2006 | C2 |
| 2007 | F1 |
| 2008 | F3 |
| 2009 | E5 |
| 2010 | F5 |
| 2011 | E9 |
| 2012 | D9 |
| 2013 | C9 |
| 2014 | F6 |
| 2015 | F5 |
| 2016 | E6 |
| 2017 | C9 |
| 2018 | C1 |
| 2020 | C11 |
| 2022 | E11 |
| 2023 | E14 |
| 2024 | E12 |
| 2025 | E13 |
| 2026 | F3 |
| 2027 | E2 |
| 2028 | C11 |
| 2029 | G11 |
| 2030 | F12 |
| 2031 | F15 |
| 2032 | D2 |
| 2033 | D1 |
| 2034 | E1 |
| 2035 | F1 |
| 2036 | D2 |
| 2037 | E2 |
| 2038 | C13 |
| 2039 | D7 |
| 2040 | D7 |
| 2041 | D8 |
| 2042 | D9 |
| 2043 | D13 |
| 2044 | D11 |
| 2045 | F11 |
| 2046 | C8 |
| 2047 | E1 |
| 2048 | F6 |
| 2049 | C1 |
| 2052 | B3 |
| 2053 | B5 |
| 2060 | F6 |
| 2062 | A4 |
| 2070 | E7 |
| 2071 | C7 |
| 2090 | B2 |
| 2290 | H10 |
| 2291 | G11 |
| 2292 | H11 |
| 2293 | H11 |
| 2294 | H11 |
| 2295 | G11 |
| 2296 | H11 |
| 3001 | E6 |
| 3002 | C6 |
| 3003 | C1 |
| 3004 | C1 |
| 3005 | C2 |
| 3006 | D2 |
| 3007 | E2 |
| 3008 | E2 |
| 3009 | F1 |
| 3010 | E4 |
| 3011 | E5 |
| 3012 | F3 |
| 3013 | F4 |
| 3014 | C7 |
| 3015 | C7 |
| 3016 | C7 |
| 3017 | D7 |
| 3018 | D7 |
| 3019 | E7 |
| 3020 | F5 |
| 3021 | F5 |
| 3022 | C12 |
| 3023 | E12 |
| 3024 | E13 |
| 3025 | F13 |
| 3027 | F2 |
| 3028 | F13 |
| 3029 | E13 |
| 3030 | F12 |
| 3031 | F13 |
| 3032 | F14 |
| 3033 | D8 |
| 3034 | F13 |
| 3037 | C13 |
| 3038 | C13 |
| 3039 | C14 |
| 3040 | E13 |
| 3041 | F13 |
| 3042 | D1 |
| 3043 | D1 |
| 3044 | D1 |
| 3045 | E2 |
| 3046 | E1 |
| 3047 | E2 |
| 3048 | D1 |
| 3049 | D3 |
| 3050 | F7 |
| 3052 | E12 |
| 3054 | D6 |
| 3056 | E4 |
| 3057 | D12 |
| 3059 | D8 |
| 3060 | C8 |
| 3061 | D8 |
| 3064 | F3 |
| 3065 | E4 |
| 3066 | F2 |
| 3067 | F5 |
| 3069 | E1 |
| 3070 | E5 |
| 3071 | F2 |
| 3072 | B13 |
| 3073 | D7 |
| 3075 | B8 |
| 3076 | C8 |
| 3077 | E8 |
| 3078 | E8 |
| 3080 | C12 |
| 3081 | A4 |
| 3082 | B5 |
| 3089 | A4 |
| 3090 | A2 |
| 3091 | B2 |
| 3092 | A3 |
| 3093 | B2 |
| 3094 | A3 |
| 3095 | A5 |
| 3096 | A5 |
| 3097 | B5 |
| 3098 | F15 |
| 3100 | F14 |
| 3292 | H10 |
| 5001 | C6 |
| 5002 | C9 |
| 5004 | E9 |
| 5290 | G10 |
| 5291 | H12 |
| 5292 | H12 |
| 5293 | G12 |
| 6002 | A4 |
| 6003 | A3 |
| 6004 | D6 |
| 6005 | D5 |
| 6006 | D7 |
| 6007 | C7 |
| 6008 | D7 |
| 6009 | F4 |
| 6010 | F4 |
| 6011 | F4 |
| 6012 | B11 |
| 6018 | C8 |
| 6019 | E7 |
| 6021 | F11 |
| 6023 | E13 |
| 6027 | C7 |
| 6028 | E7 |
| 6029 | B11 |
| 6031 | D2 |
| 6032 | D2 |
| 6033 | E1 |
| 6034 | D2 |
| 6035 | D2 |
| 6042 | C13 |
| 6044 | C11 |
| 6045 | F11 |
| 6075 | B8 |
| 6077 | D8 |
| 6095 | A5 |
| 6291 | H11 |
| 6292 | H11 |
| 7001 | B3 |
| 7002 | B9 |
| 7003 | A9 |
| 7005 | B8 |
| 7006 | E8 |
| 7007 | C7 |
| 7008 | E7 |
| 7009 | E4 |
| 7010 | E12 |
| 7011 | F13 |
| 7012 | D7 |
| 7013 | A3 |
| 7017 | F3 |
| 7018 | F3 |
| 7020 | C8 |
| 7021 | D8 |
| 7042 | C13 |
| 7090 | A2 |
| 7091 | A3 |
| 7092 | A3 |
| 7093 | A4 |
| 9007 | A3 |
| F001 | A6 |
| F002 | C7 |
| F003 | C5 |
| F004 | C5 |
| F005 | C9 |
| F006 | D8 |
| F007 | F3 |
| F008 | D5 |
| F009 | D6 |
| F014 | E12 |
| F016 | B13 |
| F017 | C11 |
| F040 | B14 |
| F290 | H12 |
| F292 | H12 |
| F293 | G12 |
| F294 | H12 |
| F295 | H12 |
| F296 | G13 |
| F297 | H12 |
| F298 | H12 |
| I001 | A2 |
| I002 | A3 |
| I003 | A5 |
| I004 | A5 |
| I005 | B2 |
| I006 | B4 |
| I007 | C2 |
| I008 | C2 |
| I009 | C2 |
| I010 | D2 |
| I011 | D1 |
| I012 | D4 |
| I013 | D2 |
| I014 | E1 |
| I015 | D2 |
| I016 | E2 |
| I017 | E2 |
| I018 | E2 |
| I019 | E1 |
| I020 | E3 |
| I021 | E1 |
| I022 | F2 |
| I023 | F3 |
| I024 | F3 |
| I025 | F2 |
| I026 | F1 |
| I027 | C2 |
| I028 | G3 |
| I029 | G3 |
| I030 | E5 |
| I031 | E4 |
| I032 | E5 |
| I033 | F4 |
| I034 | F5 |
| I035 | F5 |
| I036 | F5 |
| I037 | C8 |
| I038 | C8 |
| I039 | D6 |
| I041 | B8 |
| I042 | B7 |
| I043 | B7 |
| I044 | B8 |
| I045 | C6 |
| I046 | C7 |
| I047 | D7 |
| I048 | D7 |
| I049 | D8 |
| I050 | D8 |
| I051 | E7 |
| I052 | D7 |
| I053 | E7 |
| I054 | E7 |
| I055 | E8 |
| I056 | A2 |
| I057 | D7 |
| I059 | E8 |
| I060 | A10 |
| I061 | A10 |
| I062 | B10 |
| I063 | B10 |
| I064 | B8 |
| I065 | C9 |
| I066 | C8 |
| I067 | C8 |
| I070 | B11 |
| I071 | F10 |
| I072 | D11 |
| I073 | F10 |
| I074 | F11 |
| I075 | C13 |
| I077 | F11 |
| I078 | C13 |
| I079 | C13 |
| I080 | G10 |
| I081 | F7 |
| I082 | F7 |
| I083 | F8 |
| I084 | F8 |
| I085 | E12 |
| I088 | E13 |
| I089 | E12 |
| I090 | E13 |
| I091 | E14 |
| I092 | F13 |
| I093 | F12 |
| I094 | F12 |
| I095 | H6 |
| I096 | H7 |
| I098 | H8 |
| I282 | D1 |
| I283 | F14 |
| I284 | E15 |
| I285 | A4 |
| I286 | A4 |
| I287 | A4 |
| I288 | B5 |
| I289 | A5 |
| I290 | G11 |
| I291 | H11 |
| I292 | H10 |
| I293 | H11 |
| I294 | D13 |
| I295 | D6 |
| I296 | F6 |
| I297 | E7 |
| I298 | C7 |
| I299 | B11 |


A6
LLC SUPPLY
BIAS SUPPLY
25V_HOT
18V(22V5)
19V3 (24V)
18V6 (0V)
18V6 (22V1)
15V9
16V2(4V7)
LM317T
BC857BW
BC807-25W
BCP56
SW25V_HOT
400V_HOT
+5V_INT_SW
5V1(4V2)
LATCH
TCET1102(G)
VTUN
CONTROL
MC34067P
VS-CONTROLLER
HIGH SIDE DRIVE
LOW SIDE DRIVE
STP15NK50ZFP
BZG03-C270
BC327-25
BC847BW
SOFTSTART CONTROL
CURRENT PROTECTION
Vs_unsw
70-90V
86V(6V)
STTH2003C
PMST5401
VS
BZX384-C47
34V(4V)
VRS FEEDBACK
TS2431
2V5
(0V6)
1V9(0V7)
VRS
T2,5A/250V 19382
BY328/20
35V(4V)
+30V
VB
F1A/250V
BS42315-02
DC_PROT
VSND_POS
GND_SND
VSND_NEG
TO 1M02
C
PDP AUDIO
1002
STPS745F
EMC HOLE 1000
EMC HOLE 1001
EMC HOLE 1009
EMC HOLE 1006
EMC HOLE 1008
HEATSINK 0204
MEASURED DC-VOLTAGES
NORMAL ..
STANDBY (...)
HOT GROUND
HOT
COLD
COLD GROUND
3104 313 6128.1
E_16040_034.eps
271005
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H

## PDP FHP Supply: AUX Supply


A7 AUX SUPPLY
A7
+12V-SUPPLY
VCC-SUPPLY
SEQUENCE DISCHARGE
FROM PROTECTION
SMPS CONTROL
REGULATOR
VB
70-90V
+5V_INT_SW
Vs_unsw
70-90V
+30V
35V(4V)
12V6(ON)
64V (0V5)
11V5(0V7)
105V (0V)
87V (0V5)
87V (0V5)
0V (0V5)
104V(0V)
5V2(0V)
0V1(8V)
3V3 (8V4)
2V5 (0V3)
2V5(0V3)
10V4(0V7)
+8V6
VS
VA
VA Adj.
VCC
+9V_STBY_SW
+12V
+9V_STBY
VTUN
+5V_STBY_SW
TO 1J01
B
SSB
TO 1M10
AL
AMBI LIGHT
TO CN23 PDP (DISPLAY)
TO CN42 PDP (DISPLAY)
TO CN52 PDP (DISPLAY)
POK
VCC_GO
MEASURED DC-VOLTAGES
NORMAL . . .
STANDBY ( . . . )
3104 313 6128.1
E_16040_035.eps
271005
1 2 3 4 5 6 7 8 9 10 11 12 13
A B C D E F G H I

| | |
|---|---|
| 0323 | E13 |
| 0342 | G12 |
| 0352 | G13 |
| 1110 | B1 |
| 1200 | G4 |
| 1260 | A5 |
| 1M10 | C13 |
| 1M46 | B13 |
| 2021 | I4 |
| 2050 | G3 |
| 2051 | H6 |
| 2054 | C1 |
| 2055 | E2 |
| 2056 | C1 |
| 2057 | E3 |
| 2058 | G2 |
| 2059 | I1 |
| 2061 | I2 |
| 2111 | D1 |
| 2112 | D1 |
| 2113 | E1 |
| 2114 | E2 |
| 2117 | D3 |
| 2118 | C4 |
| 2121 | E11 |
| 2122 | D8 |
| 2123 | D7 |
| 2126 | E8 |
| 2133 | E9 |
| 2138 | D6 |
| 2203 | I4 |
| 2205 | I5 |
| 2210 | I6 |
| 2211 | I6 |
| 2212 | G6 |
| 2213 | I4 |
| 2214 | I4 |
| 2215 | I6 |
| 2217 | H8 |
| 2218 | G9 |
| 2219 | I7 |
| 2222 | G10 |
| 2223 | F10 |
| 2225 | H10 |
| 2226 | G11 |
| 2227 | G11 |
| 2228 | H12 |
| 2229 | H10 |
| 2230 | I10 |
| 2231 | I12 |
| 2232 | I10 |
| 2233 | H13 |
| 2234 | I11 |
| 2235 | I12 |
| 2236 | H12 |
| 2237 | H13 |
| 2260 | A6 |
| 2261 | A6 |
| 2262 | A6 |
| 2263 | B6 |
| 2264 | B8 |
| 2265 | A9 |
| 2266 | B8 |
| 2267 | B9 |
| 2268 | B9 |
| 2269 | A10 |
| 2270 | B7 |
| 2273 | D12 |
| 2274 | D10 |
| 3051 | G2 |
| 3053 | H3 |
| 3055 | B1 |
| 3058 | G2 |
| 3062 | H2 |
| 3063 | D10 |
| 3079 | D9 |
| 3083 | H2 |
| 3084 | I1 |
| 3085 | I1 |
| 3086 | I1 |
| 3087 | I1 |
| 3088 | I1 |
| 3101 | D9 |
| 3106 | C1 |
| 3107 | C1 |
| 3108 | C2 |
| 3109 | C2 |
| 3110 | C2 |
| 3111 | C5 |
| 3112 | D1 |
| 3113 | D2 |
| 3114 | D2 |
| 3115 | D3 |
| 3116 | D3 |
| 3117 | D3 |
| 3118 | C4 |
| 3120 | D7 |
| 3121 | D7 |
| 3122 | D8 |
| 3123 | D8 |
| 3124 | D8 |
| 3125 | E8 |
| 3126 | E7 |
| 3128 | E8 |
| 3130 | D8 |
| 3131 | D9 |
| 3132 | E7 |
| 3133 | C8 |
| 3134 | D10 |
| 3135 | E10 |
| 3136 | E10 |
| 3138 | D5 |
| 3139 | D6 |
| 3140 | E6 |
| 3141 | E6 |
| 3142 | E6 |
| 3143 | E5 |
| 3145 | C6 |
| 3146 | C6 |
| 3147 | D9 |
| 3148 | E7 |
| 3149 | G8 |
| 3150 | D7 |
| 3151 | B10 |
| 3152 | B11 |
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| 3157 | D11 |
| 3158 | D11 |
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| 3215 | I7 |
| 3216 | H7 |
| 3217 | H8 |
| 3218 | I9 |
| 3219 | I7 |
| 3220 | I9 |
| 3224 | G11 |
| 3225 | H11 |
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| 3268 | B10 |
| 3269 | A10 |
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| 5225 | G11 |
| 5229 | H10 |
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| 7110 | C2 |
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| 7140-1 | D5 |
| 7140-2 | D6 |
| 7142 | D6 |
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| 9002 | C6 |
| 9009 | A11 |
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| F106 | E13 |
| F107 | G13 |
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| F120 | F12 |
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| F132 | E13 |
| F133 | E12 |
| F134 | F12 |
| F135 | F12 |
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| F139 | H12 |
| F140 | G12 |
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| F380 | B13 |
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| I102 | B3 |
| I103 | A7 |
| I104 | A6 |
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| I106 | C3 |
| I107 | C4 |
| I108 | D4 |
| I109 | C2 |
| I110 | D3 |
| I111 | C5 |
| I112 | D3 |
| I113 | D1 |
| I114 | E2 |
| I115 | D2 |
| I116 | D2 |
| I117 | D3 |
| I118 | D4 |
| I120 | D8 |
| I121 | D7 |
| I122 | D10 |
| I123 | D9 |
| I124 | D7 |
| I125 | D9 |
| I126 | D8 |
| I127 | D7 |
| I128 | D8 |
| I129 | E10 |
| I130 | A9 |
| I131 | E7 |
| I132 | E9 |
| I133 | B9 |
| I134 | B10 |
| I135 | C6 |
| I136 | B10 |
| I137 | B13 |
| I138 | A9 |
| I139 | A7 |
| I140 | B8 |
| I141 | A8 |
| I142 | A6 |
| I147 | C2 |
| I148 | H9 |
| I152 | C9 |
| I153 | D6 |
| I154 | D6 |
| I155 | D6 |
| I156 | D6 |
| I157 | E6 |
| I158 | C1 |
| I159 | E1 |
| I160 | E2 |
| I161 | G2 |
| I162 | C2 |
| I163 | C1 |
| I164 | C1 |
| I165 | E3 |
| I166 | F6 |
| I167 | F7 |
| I168 | F7 |
| I169 | H8 |
| I170 | H10 |
| I171 | H11 |
| I172 | A6 |
| I173 | A6 |
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| I177 | B11 |
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| I179 | B11 |
| I180 | B11 |
| I181 | C11 |
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| I201 | H3 |
| I202 | I3 |
| I203 | I1 |
| I204 | I2 |
| I207 | I1 |
| I208 | H5 |
| I209 | H9 |
| I210 | G5 |
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| I212 | F6 |
| I213 | G5 |
| I214 | G7 |
| I215 | G6 |
| I216 | G8 |
| I217 | H7 |
| I218 | H7 |
| I219 | H8 |
| I220 | H4 |
| I221 | H7 |
| I222 | I4 |
| I223 | I7 |
| I224 | I7 |
| I225 | I1 |
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| I231 | F11 |
| I233 | F10 |
| I234 | G11 |
| I235 | G11 |
| I236 | G9 |
| I237 | H11 |
| I238 | G10 |
| I240 | H9 |
| I243 | I11 |
| I244 | I3 |
| I245 | I8 |
| I246 | B6 |
| I247 | B9 |
| I248 | C4 |
| I249 | C5 |

## Layout PDP FHP Supply (Overview Top Side)

| | |
|---|---|
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| 0204 | D7 |
| 0308 | G1 |
| 0309 | G1 |
| 0311 | G3 |
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| 0342 | F8 |
| 0352 | E8 |
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| 1003 | F1 |
| 1004 | F8 |
| 1005 | G4 |
| 1082 | C8 |
| 1083 | B8 |
| 1084 | A8 |
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| 1200 | E6 |
| 1260 | F8 |
| 1400 | F1 |
| 1402 | F1 |
| 1450 | F4 |
| 1460 | E4 |
| 1M03 | G5 |
| 1M05 | G3 |
| 1M10 | A8 |
| 1M46 | G8 |
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| 2001 | E2 |
| 2002 | G1 |
| 2003 | E2 |
| 2004 | E2 |
| 2005 | A4 |
| 2006 | A4 |
| 2007 | A5 |
| 2008 | A4 |
| 2009 | A4 |
| 2010 | A3 |
| 2011 | B5 |
| 2012 | A5 |
| 2013 | C5 |
| 2014 | B5 |
| 2015 | A4 |
| 2016 | A4 |
| 2017 | C5 |
| 2018 | A4 |
| 2019 | E1 |
| 2020 | B8 |
| 2021 | D8 |
| 2022 | B8 |
| 2023 | E5 |
| 2024 | E5 |
| 2025 | E8 |
| 2026 | A4 |
| 2027 | A4 |
| 2028 | C8 |
| 2029 | C8 |
| 2030 | E5 |
| 2031 | E5 |
| 2032 | A4 |
| 2033 | A4 |
| 2034 | B5 |
| 2035 | A5 |
| 2036 | A4 |
| 2037 | B5 |
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| 2039 | B3 |
| 2040 | B3 |
| 2041 | B3 |
| 2042 | B4 |
| 2043 | E8 |
| 2044 | C8 |
| 2045 | C8 |
| 2046 | B3 |
| 2047 | A4 |
| 2048 | A5 |
| 2049 | A4 |
| 2050 | E8 |
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| 2054 | D8 |
| 2055 | D8 |
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| 2058 | C8 |
| 2059 | D8 |
| 2060 | A5 |
| 2061 | D8 |
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| 2118 | C6 |
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| 2123 | D5 |
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| 2214 | D8 |
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| 2218 | E6 |
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| 2398 | G7 |
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| 2402 | G1 |
| 2403 | E1 |
| 2404 | F2 |
| 2405 | E1 |
| 2406 | E2 |
| 2407 | D1 |
| 2408 | E2 |
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| 2465 | E5 |
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| 2512 | G4 |
| 2513 | G4 |
| 2532 | G3 |
| 2533 | G4 |
| 2534 | G5 |
| 2540 | G5 |
| 2541 | G5 |
| 2542 | F5 |
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| 2603 | B1 |
| 2604 | C1 |
| 2605 | C1 |
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| 2611 | D2 |
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| 2613 | B2 |
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| 2655 | A3 |
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| 2665 | B3 |
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| 2675 | B2 |
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| 2677 | B2 |
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| 3014 | C4 |
| 3015 | C4 |
| 3016 | C4 |
| 3017 | B4 |
| 3018 | B4 |
| 3019 | B4 |
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| 3054 | B3 |
| 3055 | C8 |
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| 3307 | G7 |
| 3308 | G6 |
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| 3396 | G4 |
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| 3617 | A2 |
| 3618 | A2 |
| 3619 | B2 |
| 3620 | C2 |
| 3621 | C2 |
| 3622 | C2 |
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| 3654 | B2 |
| 3655 | A3 |
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| 5293 | A8 |
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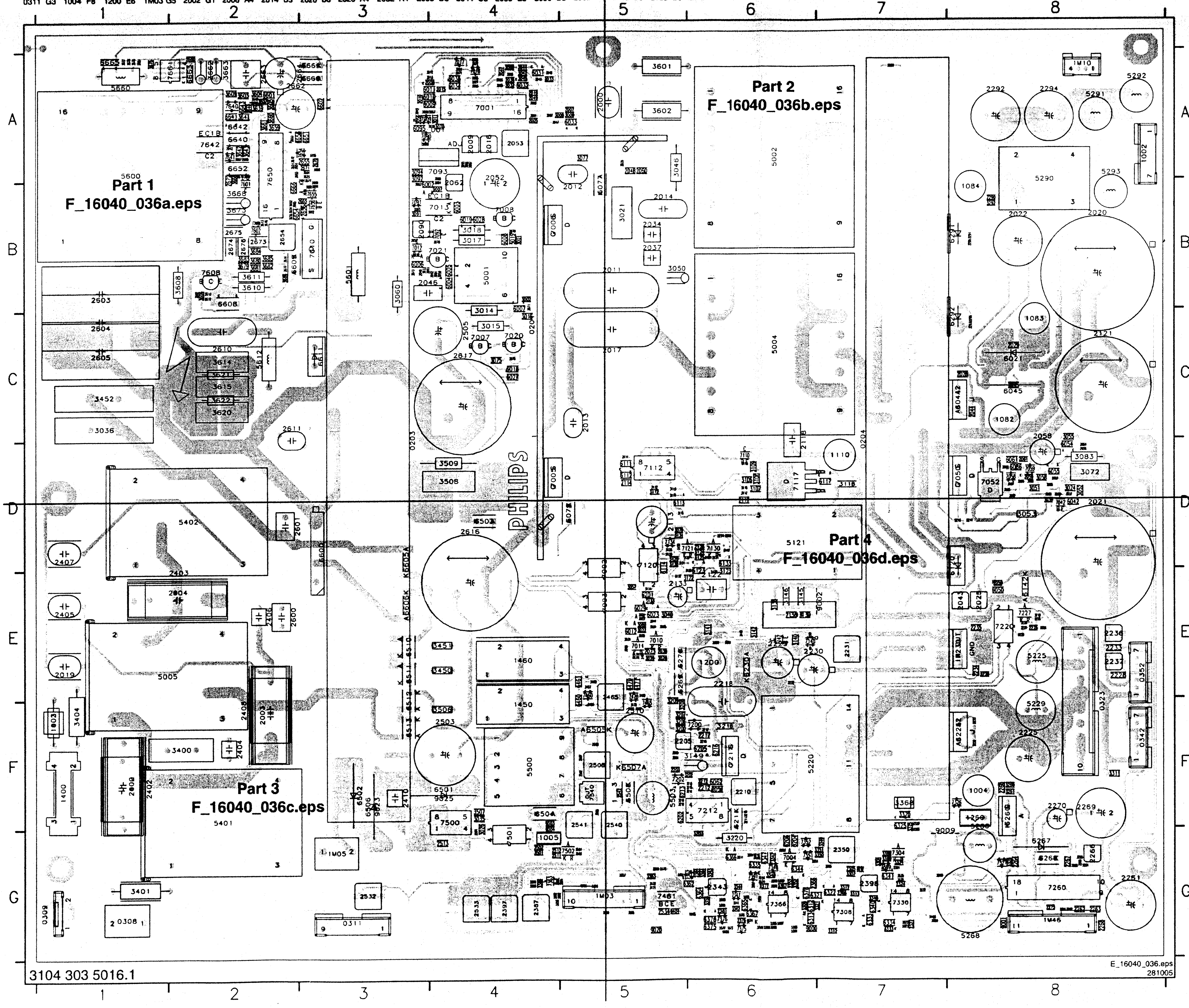
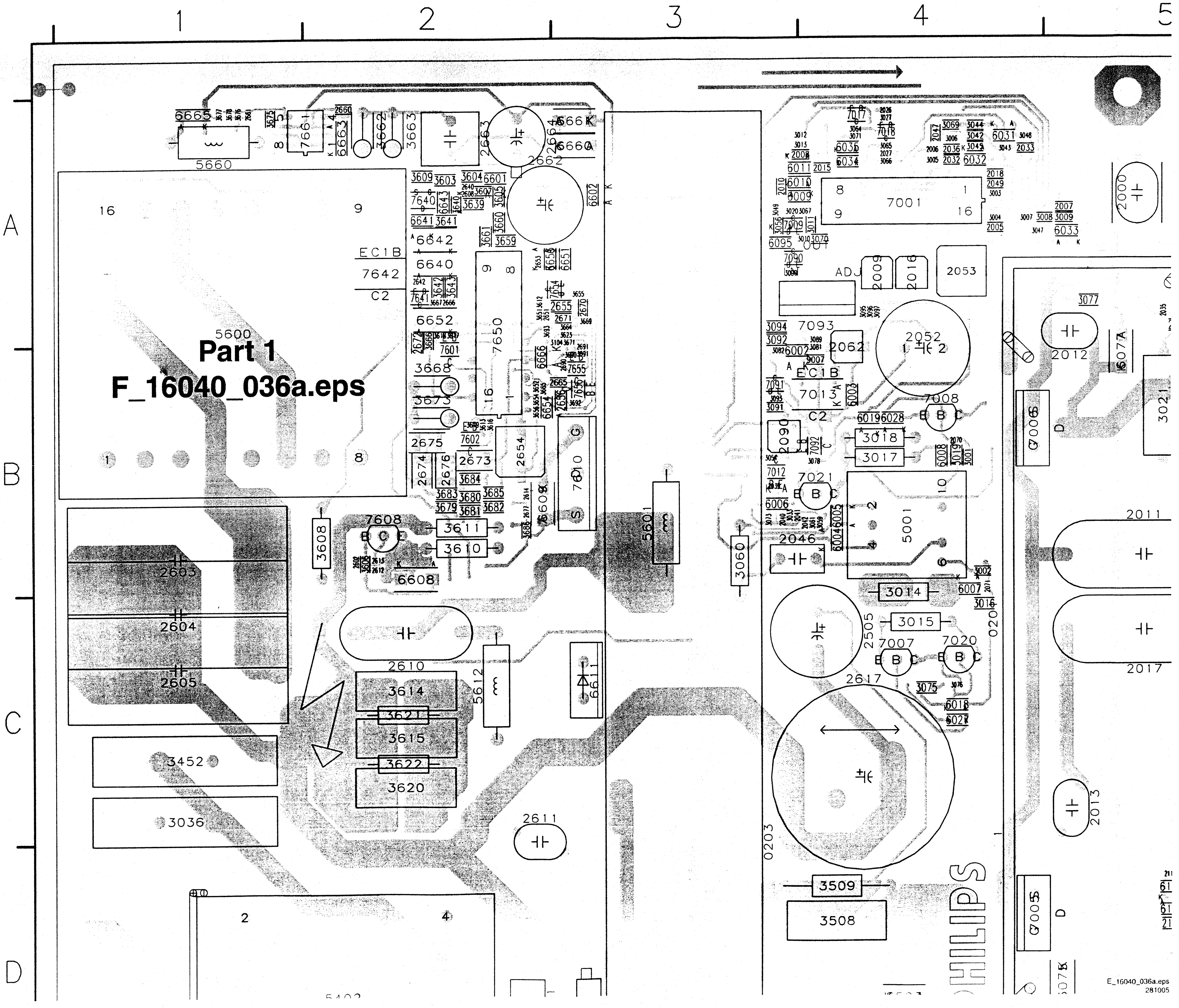
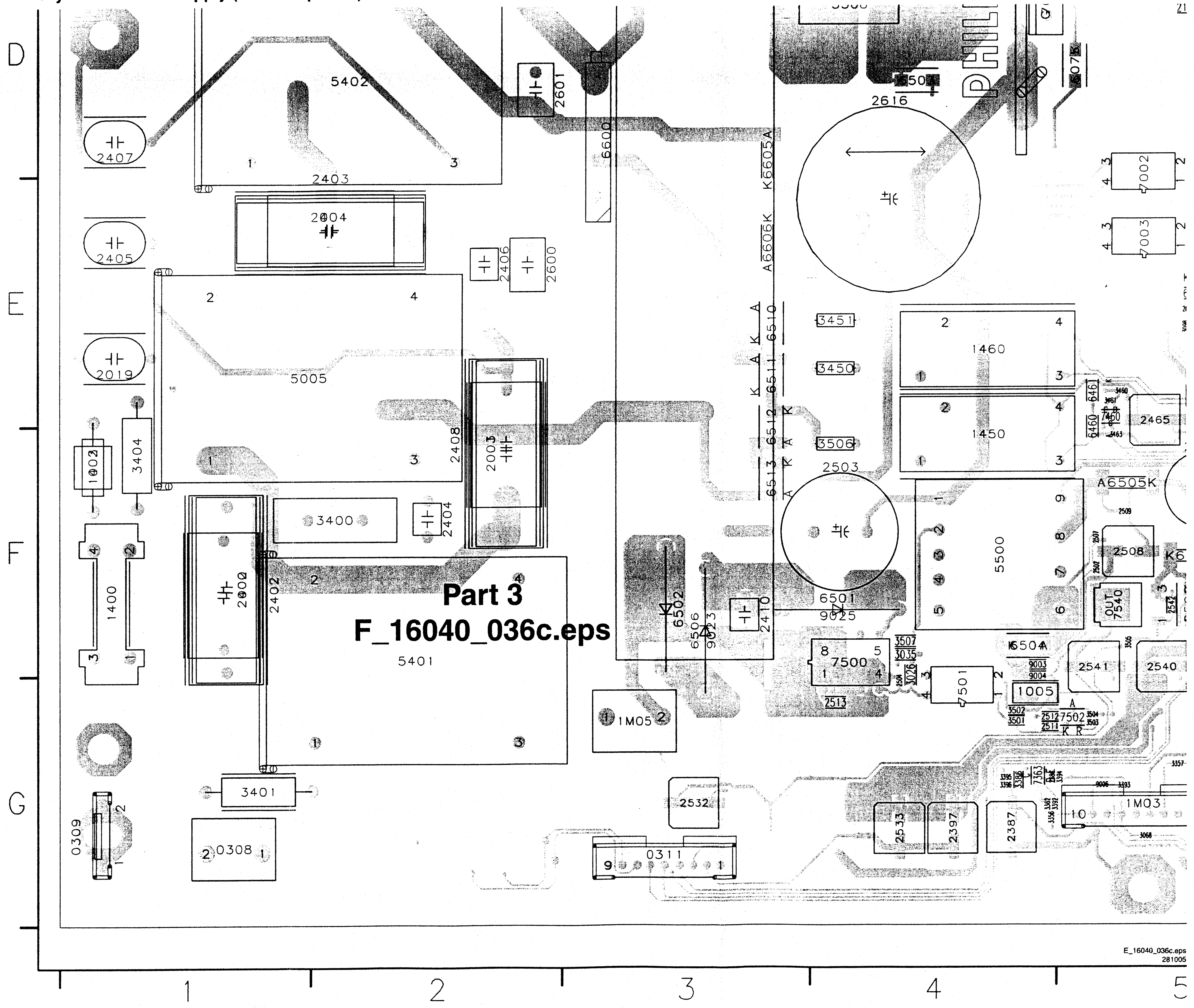
| 6213 | F5 |
| 6216 | F6 |
| 6225 | F8 |
| 6230 | E6 |
| 6260 | F8 |
| 6267 | G8 |
| 6268 | G8 |
| 6269 | E5 |
| 6270 | E5 |
| 6291 | B8 |
| 6292 | B8 |
| 6312 | G6 |
| 6313 | G7 |
| 6321 | G6 |
| 6322 | G7 |
| 6325 | F7 |
| 6333 | G7 |
| 6334 | G7 |
| 6335 | G6 |
| 6340 | G7 |
| 6341 | G7 |
| 6344 | G6 |
| 6347 | G6 |
| 6362 | G5 |
| 6364 | G6 |
| 6365 | G6 |
| 6366 | G6 |
| 6367 | G6 |
| 6375 | G6 |
| 6376 | G6 |
| 6378 | G6 |
| 6460 | F5 |
| 6461 | E5 |
| 6470 | E5 |
| 6471 | E5 |
| 6501 | F3 |
| 6502 | F3 |
| 6503 | D4 |
| 6504 | F4 |
| 6505 | F5 |
| 6506 | F3 |
| 6507 | F5 |
| 6508 | F5 |
| 6510 | E3 |
| 6511 | E3 |
| 6512 | E3 |
| 6513 | F3 |
| 6600 | E3 |
| 6601 | A2 |
| 6602 | A3 |
| 6605 | D3 |
| 6606 | E3 |
| 6608 | B2 |
| 6609 | B2 |
| 6611 | C3 |
| 6640 | A2 |
| 6641 | A2 |
| 6642 | A2 |
| 6643 | A2 |
| 6651 | A3 |
| 6652 | A2 |
| 6653 | A2 |
| 6654 | B2 |
| 6660 | A3 |
| 6661 | A3 |
| 6663 | A2 |
| 6665 | A1 |
| 6666 | B2 |
| 7001 | A4 |
| 7002 | D5 |
| 7003 | E5 |
| 7004 | G6 |
| 7005 | D5 |
| 7006 | B5 |
| 7007 | C4 |
| 7008 | B4 |
| 7009 | A3 |
| 7010 | E5 |
| 7011 | E5 |
| 7012 | B3 |
| 7013 | B4 |
| 7017 | A4 |
| 7018 | A4 |
| 7020 | C4 |
| 7021 | B4 |
| 7042 | D8 |
| 7050 | D8 |
| 7052 | D8 |
| 7058 | D8 |
| 7059 | D8 |
| 7090 | A3 |
| 7091 | B3 |
| 7092 | B4 |
| 7093 | A3 |
| 7110 | D6 |
| 7112 | D5 |
| 7117 | D6 |
| 7120 | D5 |
| 7121 | D6 |
| 7130 | D6 |
| 7134 | D5 |
| 7140 | E7 |
| 7142 | E6 |
| 7200 | F6 |
| 7202 | F5 |
| 7212 | G6 |
| 7217 | F6 |
| 7220 | E8 |
| 7227 | E8 |
| 7230 | E8 |
| 7260 | G8 |
| 7304 | G7 |
| 7308 | G7 |
| 7326 | F8 |
| 7327 | G8 |
| 7330 | G7 |
| 7341 | G6 |
| 7348 | G6 |
| 7351 | G6 |
| 7352 | G6 |
| 7362 | G5 |
| 7363 | G4 |
| 7366 | G6 |
| 7375 | G6 |
| 7376 | G6 |
| 7389 | G7 |
| 7391 | G6 |
| 7460 | E5 |
| 7461 | G5 |
| 7465 | F5 |
| 7470 | E5 |
| 7500 | G4 |
| 7501 | G4 |
| 7502 | G5 |
| 7540 | F5 |
| 7601 | B2 |
| 7602 | B2 |
| 7608 | B2 |
| 7610 | B3 |
| 7640 | A2 |
| 7641 | A2 |
| 7642 | A2 |
| 7650 | A2 |
| 7654 | A3 |
| 7655 | B3 |
| 7656 | B3 |
| 7661 | A2 |
| 9000 | G6 |
| 9001 | G8 |
| 9002 | E7 |
| 9003 | F4 |
| 9004 | G4 |
| 9005 | G6 |
| 9006 | G5 |
| 9007 | B4 |
| 9009 | G7 |
| 9020 | G5 |
| 9023 | F3 |
| 9025 | F3 |
| 9028 | G6 |
| 9401 | G5 |



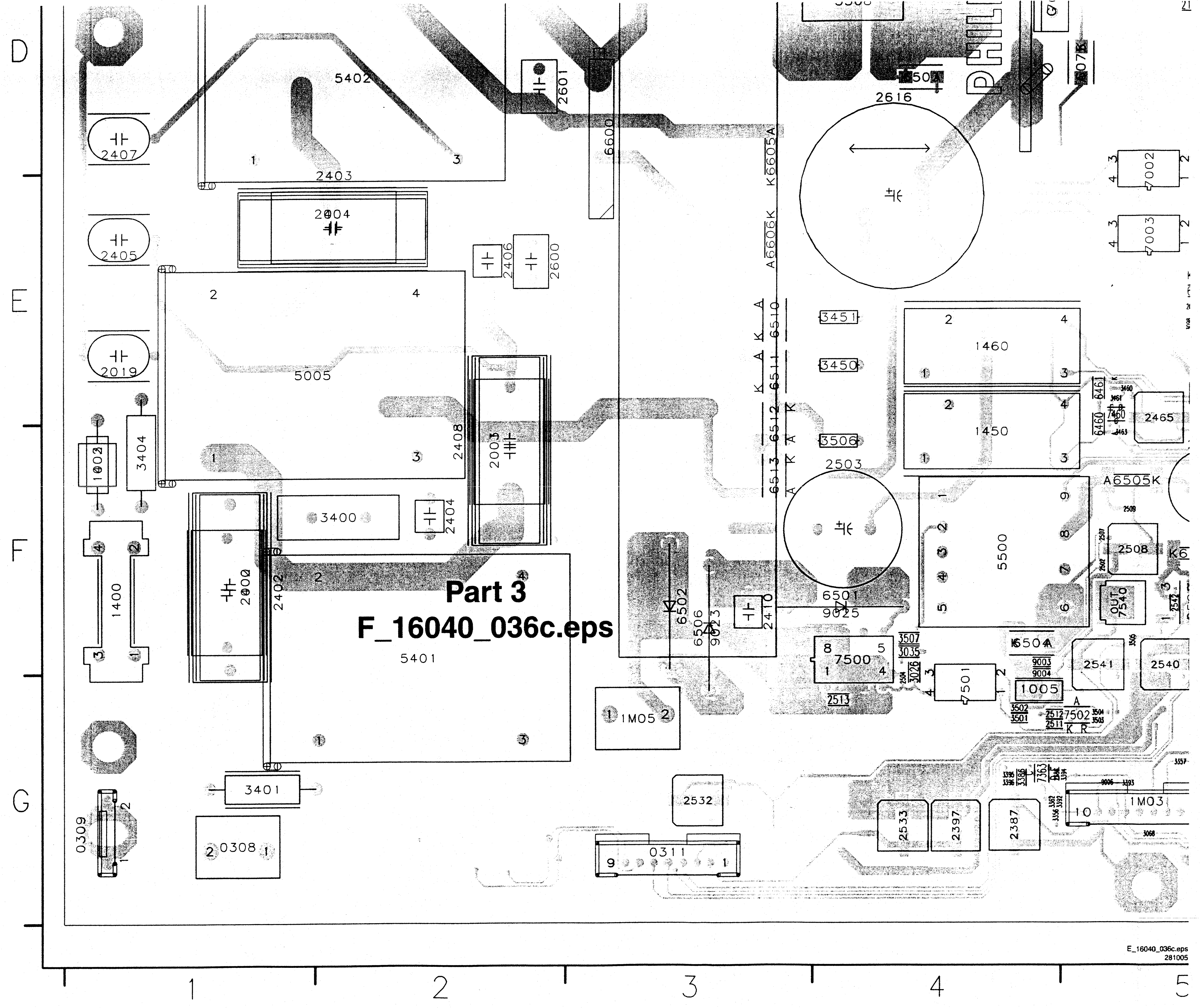
## Layout PDP FHP Supply (Part 1 Top Side)


1
2
3
4
5
A
B
C
D
Part 1
F_16040_036a.eps
5660
6665
7661
6663
3662
3663
2663
6661
6660
2662
16
9
EC1B
7642
C2
5600
1
8
3609
3603
3604
6601
7640
6643
3639
6641
3641
6642
6640
6602
3661
3659
3660
3605
7650
6652
7601
3668
3673
2675
7602
2674
2676
2673
2654
3684
3683
3685
3679
3680
3681
3682
7610
6609
2655
2671
7655
6666
6654
3608
7608
B C E
3611
3610
6608
2603
2604
2605
2610
3614
3621
3615
3622
3620
3452
3036
5612
6611
5601
3060
2611
2
4
7017
7018
6035
6034
2008
6011
2015
6010
6009
7001
8
9
16
3069
3044
3042
6031
2036
3045
2033
2032
6032
2018
2049
2007
3008
3009
6033
2000
6095
OUT
ADJ
2009
2016
2053
7090
3094
7093
3092
6002
2062
2052
EC1B
7013
C2
7091
3091
6003
6019
6028
7008
2090
7092
3018
3017
6008
3019
3001
7012
7021
6006
6004
6005
2046
5001
3077
2012
6077
7006
3021
2011
2017
3014
3015
3016
3002
6007
2505
7007
7020
2617
3075
6018
6027
0203
0201
3509
3508
PHILIPS
2013
7005
E_16040_036a.eps
281005

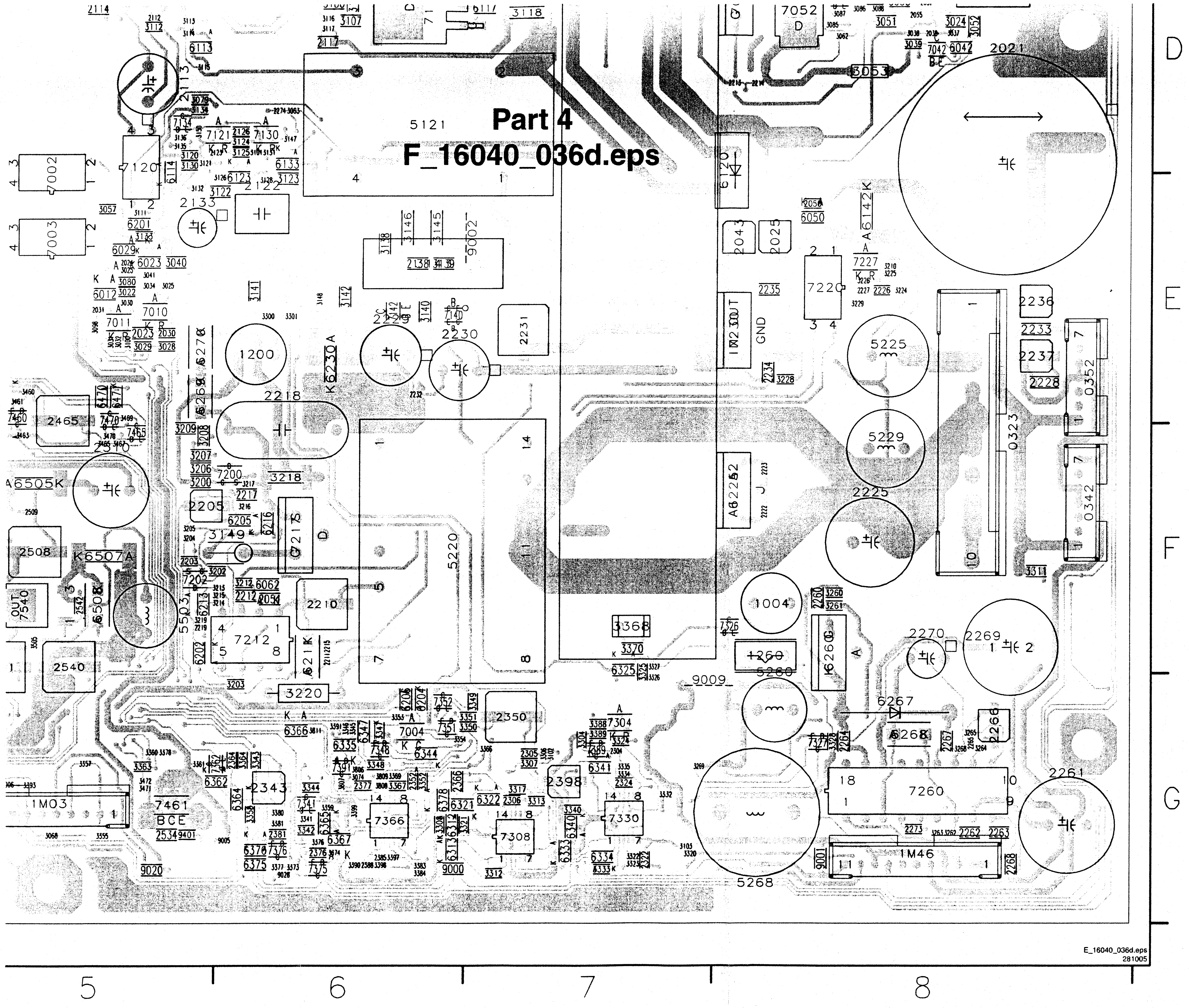
## Layout PDP FHP Supply (Part 3 Top Side)


D
E
F
G
1
2
3
4
5
Part 3
F_16040_036c.eps
5402
2601
6600
2407
2403
2004
2405
2406
2600
2019
5005
1002
3404
2408
2003
3400
2404
1400
2000
2402
5401
3401
0309
0308
1M05
2532
0311
K6605A
A6606K
2616
7002
7003
3451
3450
3506
1460
1450
6510
6511
6512
6513
2503
6502
6506
9013
2410
6501
9025
5500
A6505K
2465
6460
6461
2508
7540
7500
7501
3507
3035
3026
6504
9003
9004
1005
2541
2540
7502
3502
3501
2512
2511
2513
2533
2397
2387
1M03
1010
E_16040_036c.eps
281005

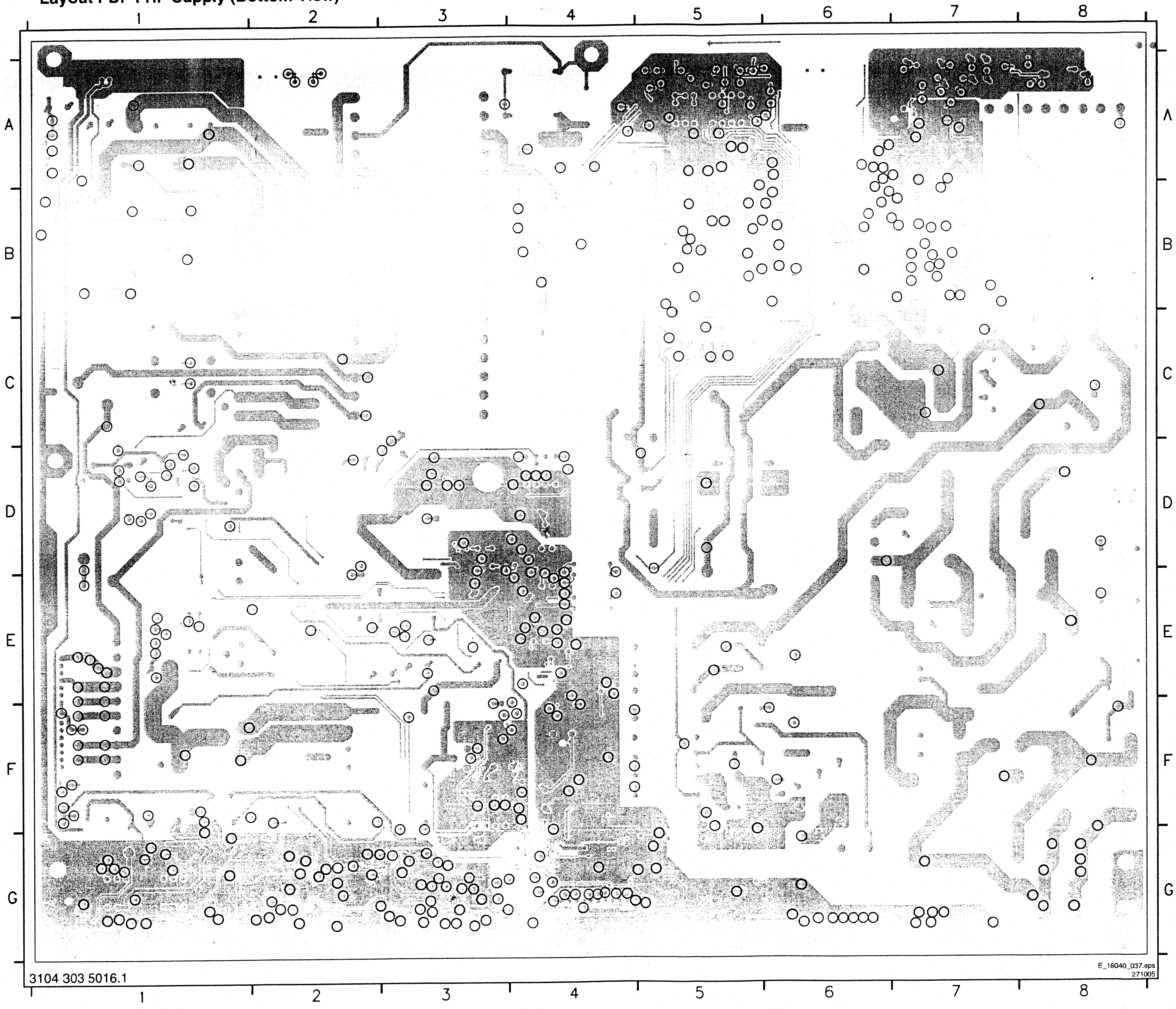
## Layout PDP FHP Supply (Part 3 Top Side)


D
E
F
G
1
2
3
4
5
5402
2407
2403
2404
2405
2406
2600
2601
6600
K6605A
A6606K
2616
7002
7003
2019
5005
1003
3404
2408
2003
3400
2404
1400
2002
2402
5401
Part 3
F_16040_036c.eps
6510
6511
6512
6513
3451
3450
3506
2503
1460
1450
6461
6460
2465
A6505K
5500
2508
7540
6502
6506
9023
2410
6501
9025
7500
3507
3035
3026
7501
6504
9003
9004
1005
2541
2540
7502
2513
1M05
3401
2532
0309
0308
0311
2533
2397
2387
1M03
E_16040_036c.eps
281005

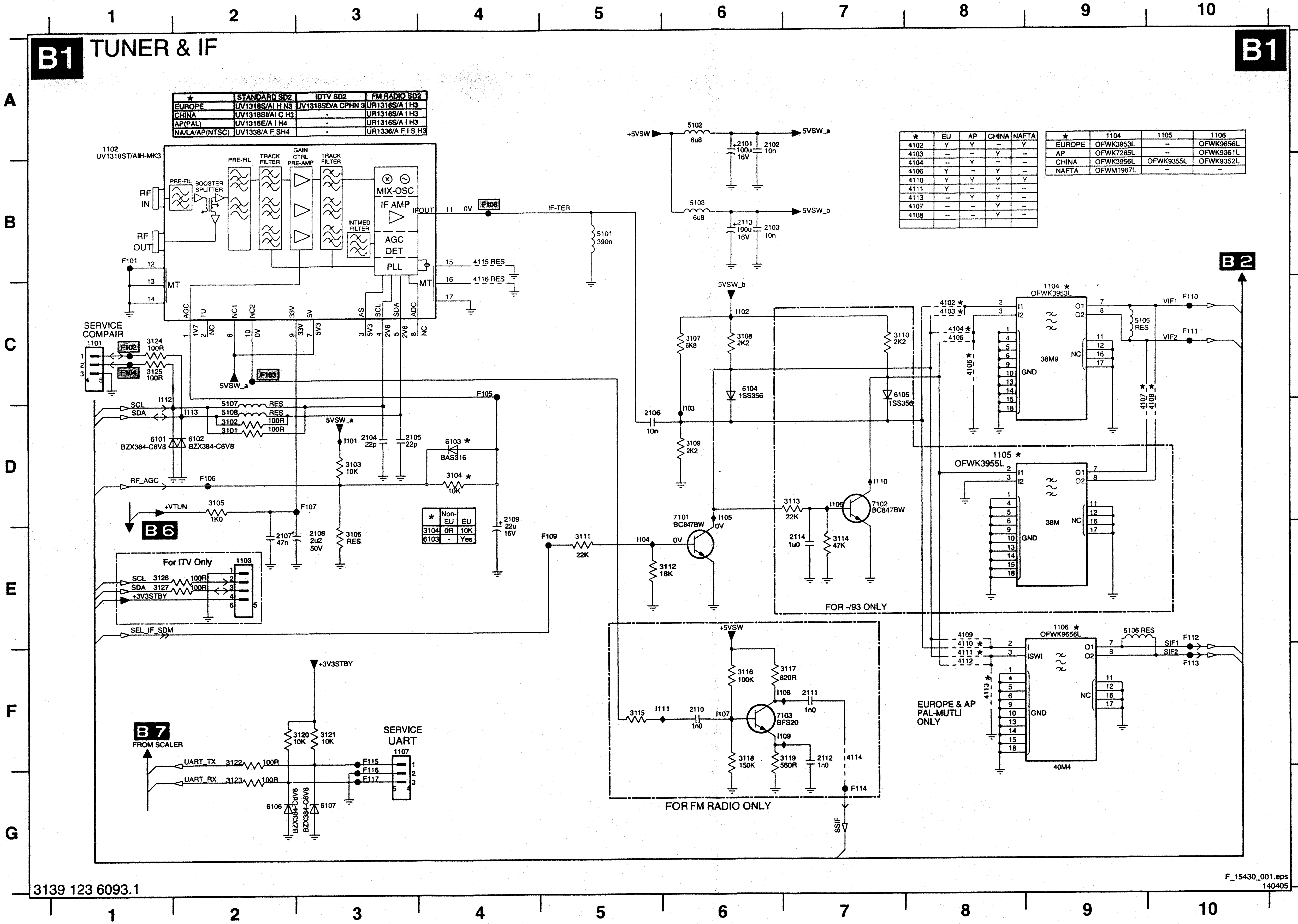
## Layout PDP FHP Supply (Part 4 Top Side)


Part 4
F_16040_036d.eps
D
E
F
G
5
6
7
8
5121
5220
5225
5229
5260
5268
7002
7003
7120
7121
7130
7052
7200
7202
7212
7220
7227
7260
7304
7308
7330
7366
7461
7540
0323
0342
0352
1M03
1M46
1004
1200
2021
2133
2205
2210
2218
2225
2230
2231
2269
2270
2261
2350
2343
2398
2465
2508
2510
2540
3053
3118
3149
3220
3368
6120
6142
6267
6268
6505
6507
9000
9001
9002
9009
9020
GND
BCE
OUT

## Layout PDP FHP Supply (Bottom View)


1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
3104 303 5016.1
E_16040_037.eps
271005

## SSB: Tuner and VIF


B1
TUNER & IF
B1
1102
UV1318ST/AIH-MK3
RF IN
RF OUT
PRE-FIL
BOOSTER SPLITTER
PRE-FIL
TRACK FILTER
GAIN CTRL PRE-AMP
TRACK FILTER
INTMED FILTER
MIX-OSC
IF AMP
AGC DET
PLL
IFOUT
MT
F101
F108
IF-TER
5101 390n
4115 RES
4116 RES
SERVICE COMPAIR
1101
F102
F104
F103
3124 100R
3125 100R
5VSW_a
SCL
SDA
5107 RES
5108 RES
3102 100R
3101 100R
6101 BZX384-C6V8
6102 BZX384-C6V8
2104 22p
2105 22p
6103 BAS316
3103 10K
3104 10K
RF_AGC
F106
+VTUN
3105 1K0
F107
2107 47n
2108 2u2 50V
3106 RES
2109 22u 16V
F105
B6
For ITV Only
1103
SCL 3126 100R
SDA 3127 100R
+3V3STBY
SEL_IF_SDM
+5VSW
5102 6u8
2101 100u 16V
2102 10n
5VSW_a
5103 6u8
2113 100u 16V
2103 10n
5VSW_b
3107 6K8
3108 2K2
6104 1SS356
2106 10n
3109 2K2
3110 2K2
6105 1SS356
F109
3111 22K
7101 BC847BW
3112 18K
3113 22K
2114 1u0
3114 47K
7102 BC847BW
FOR -/93 ONLY
1104 OFWK3953L
38M9
1105 OFWK3955L
38M
5105 RES
VIF1 F110
VIF2 F111
B2
+5VSW
3116 100K
3117 820R
3115
2110 1n0
7103 BFS20
2111 1n0
3118 150K
3119 560R
2112 1n0
4114
F114
SSIF
FOR FM RADIO ONLY
EUROPE & AP PAL-MUTLI ONLY
1106 OFWK9656L
40M4
5106 RES
SIF1 F112
SIF2 F113
B7
FROM SCALER
+3V3STBY
3120 10K
3121 10K
UART_TX 3122 100R
UART_RX 3123 100R
6106 BZX384-C6V8
6107 BZX384-C6V8
SERVICE UART
1107
F115
F116
F117
3139 123 6093.1
F_15430_001.eps 140405

| * | STANDARD SD2 | IDTV SD2 | FM RADIO SD2 |
|---|---|---|---|
| EUROPE | UV1318S/AI H N3 | UV1318SD/A CPHN 3 | UR1316S/A I H3 |
| CHINA | UV1318SI/AI C H3 | - | UR1316S/A I H3 |
| AP(PAL) | UV1316E/A I H4 | - | UR1316S/A I H3 |
| NA/LA/AP(NTSC) | UV1338/A F SH4 | - | UR1336/A F I S H3 |

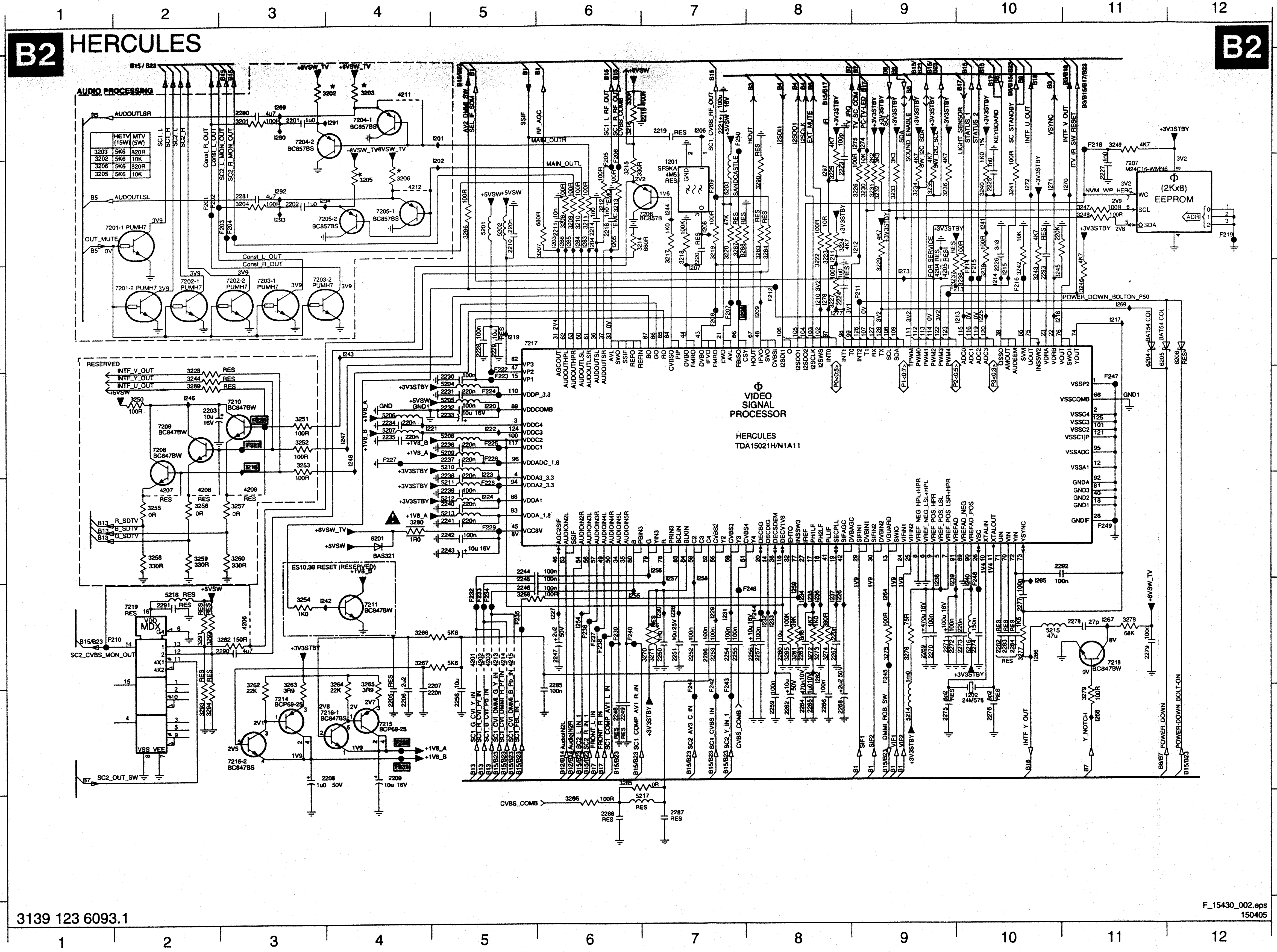
| * | EU | AP | CHINA | NAFTA |
|---|---|---|---|---|
| 4102 | Y | Y | – | Y |
| 4103 | – | – | Y | – |
| 4104 | – | Y | – | – |
| 4106 | Y | – | Y | – |
| 4110 | Y | Y | Y | Y |
| 4111 | Y | – | – | – |
| 4113 | – | Y | Y | – |
| 4107 | – | – | Y | – |
| 4108 | – | – | Y | – |
| | | | | |

| * | 1104 | 1105 | 1106 |
|---|---|---|---|
| EUROPE | OFWK3953L | – | OFWK9656L |
| AP | OFWK7265L | – | OFWK9361L |
| CHINA | OFWK3956L | OFWK9355L | OFWK9352L |
| NAFTA | OFWM1967L | – | – |

| * | Non-EU | EU |
|---|---|---|
| 3104 | 0R | 10K |
| 6103 | - | Yes |

| | |
|---|---|
| 1101 | C1 |
| 1102 | A1 |
| 1103 | E2 |
| 1104 | C9 |
| 1105 | D8 |
| 1106 | E9 |
| 1107 | F3 |
| 2101 | A6 |
| 2102 | A6 |
| 2103 | B6 |
| 2104 | D3 |
| 2105 | D3 |
| 2106 | D5 |
| 2107 | E2 |
| 2108 | E3 |
| 2109 | D4 |
| 2110 | F6 |
| 2111 | F7 |
| 2112 | F7 |
| 2113 | B6 |
| 2114 | E7 |
| 3101 | D2 |
| 3102 | D2 |
| 3103 | D3 |
| 3104 | D4 |
| 3105 | D2 |
| 3106 | E3 |
| 3107 | C6 |
| 3108 | C6 |
| 3109 | D6 |
| 3110 | C7 |
| 3111 | E5 |
| 3112 | E5 |
| 3113 | D7 |
| 3114 | E7 |
| 3115 | F5 |
| 3116 | F6 |
| 3117 | F7 |
| 3118 | F6 |
| 3119 | F6 |
| 3120 | F3 |
| 3121 | F3 |
| 3122 | F2 |
| 3123 | G2 |
| 3124 | C1 |
| 3125 | C1 |
| 3126 | E1 |
| 3127 | E1 |
| 4102 | C8 |
| 4103 | C8 |
| 4104 | C8 |
| 4105 | C8 |
| 4106 | C8 |
| 4107 | D9 |
| 4108 | D10 |
| 4109 | E8 |
| 4110 | F8 |
| 4111 | F8 |
| 4112 | F8 |
| 4113 | F8 |
| 4114 | F7 |
| 4115 | B4 |
| 4116 | C4 |
| 5101 | B5 |
| 5102 | A6 |
| 5103 | B6 |
| 5105 | C9 |
| 5106 | E9 |
| 5107 | D2 |
| 5108 | D2 |
| 6101 | D1 |
| 6102 | D2 |
| 6103 | D4 |
| 6104 | C6 |
| 6105 | C7 |
| 6106 | G2 |
| 6107 | G3 |
| 7101 | D6 |
| 7102 | D7 |
| 7103 | F6 |
| F101 | B1 |
| F102 | C1 |
| F103 | C2 |
| F104 | C1 |
| F105 | C4 |
| F106 | D2 |
| F107 | D3 |
| F108 | B4 |
| F109 | E5 |
| F110 | C10 |
| F111 | C10 |
| F112 | E10 |
| F113 | F10 |
| F114 | G7 |
| F115 | F3 |
| F116 | G3 |
| F117 | G3 |
| I101 | D3 |
| I102 | C6 |
| I103 | D6 |
| I104 | E5 |
| I105 | D6 |
| I106 | D7 |
| I107 | F6 |
| I108 | F7 |
| I109 | F7 |
| I110 | D7 |
| I111 | F6 |
| I112 | C1 |
| I113 | D2 |

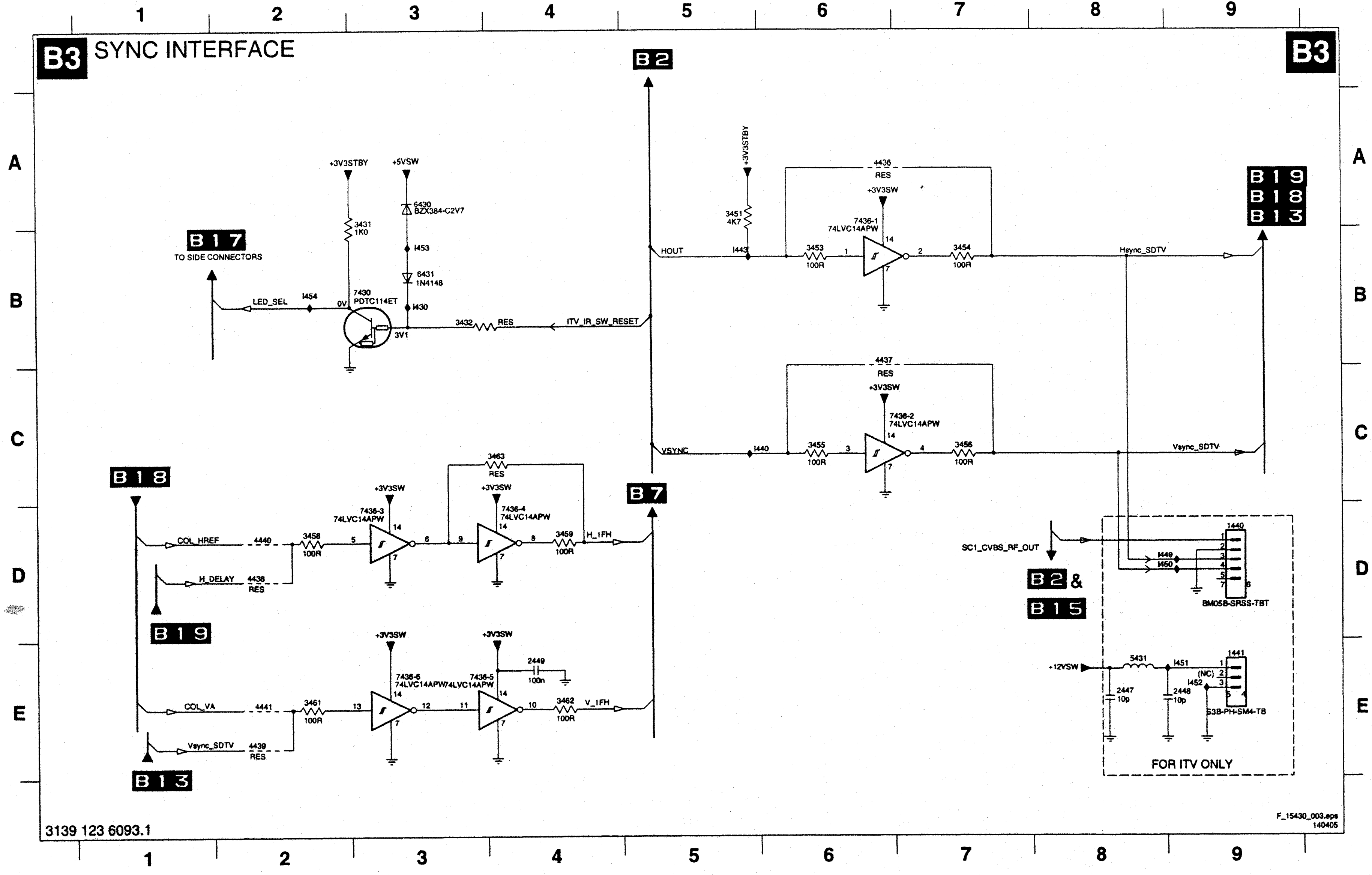
## SSB: Histogram and Hercules


B2
HERCULES
B2
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H
AUDIO PROCESSING
RESERVED
ES10.38 RESET (RESERVED)
Φ
VIDEO
SIGNAL
PROCESSOR
HERCULES
TDA15021H/N1A11
7217
Φ
(2Kx8)
EEPROM
7207
M24C16-WMN6
1201
SFSKA
4M5
RES
7219
MDX
7201-1 PUMH7
7201-2 PUMH7
7202-1 PUMH7
7202-2 PUMH7
7203-1 PUMH7
7203-2 PUMH7
7204-1 BC857BS
7204-2 BC857BS
7205-1 BC857BS
7205-2 BC857BS
7206 BC857B
7208 BC847BW
7209 BC847BW
7210 BC847BW
7211 BC847BW
7214 BCP69-25
7215 BCP69-25
7216-1 BC847BS
7216-2 BC847BS
7218 BC847BW
6201 BAS321
CVBS_COMB
SC2_CVBS_MON_OUT
SC2_OUT_SW
POWER_DOWN_BOLTON_P50
POWER_DOWN
3139 123 6093.1

F_15430_002.eps
150405

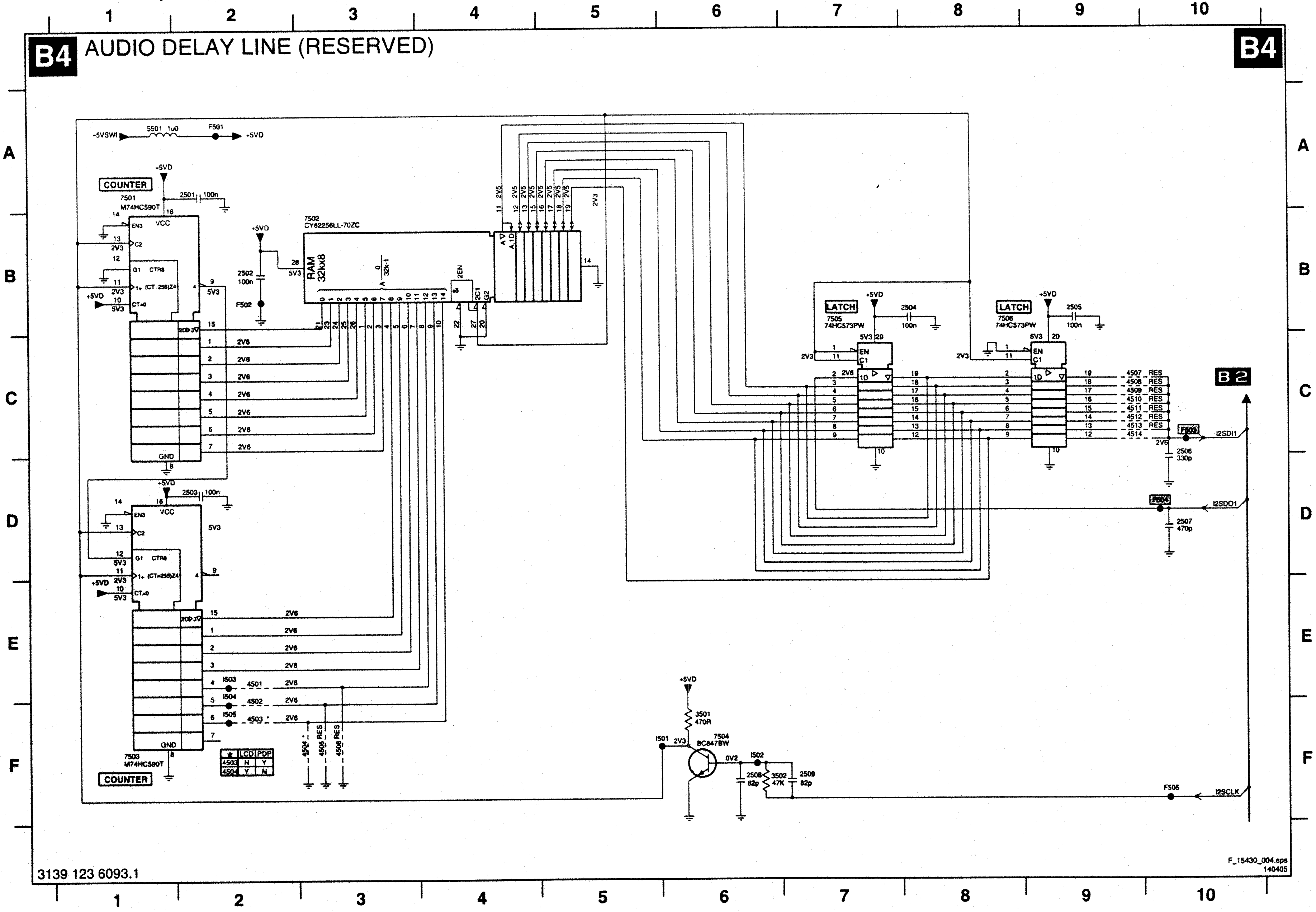
1201 B7
1202 G10
2201 A3
2202 B3
2203 D2
2205 G4
2206 G4
2207 F5
2208 G4
2209 G4
2210 B5
2211 B6
2214 B6
2216 B6
2218 A7
2219 A7
2220 B7
2221 A7
2223 B8
2224 C8
2225 B10
2226 C10
2227 B11
2228 C5
2229 C5
2230 D5
2231 D5
2232 D5
2233 D5
2234 D4
2235 D4
2236 D5
2237 D5
2238 E5
2239 E5
2240 E5
2241 E5
2242 E5
2243 E5
2244 E5
2245 E5
2246 F5
2247 F6
2248 G6
2249 G6
2250 F7
2251 F7
2252 F7
2253 F7
2254 F7
2255 F7
2256 F8
2257 F8
2258 G5
2259 G8
2260 F8
2262 G8
2263 F8
2264 G8
2265 G8
2266 G8
2267 F8
2268 G8
2269 F9
2270 F9
2271 F9
2272 F9
2273 F10
2274 F10
2275 G9
2276 G10
2277 F10
2278 F11
2279 F11
2280 A3
2281 B3
2282 F10
2283 F10
2284 F10
2285 F6
2286 F7
2287 H7
2288 H6
2290 F3
2291 F2
2292 E11
2293 C10
3201 A3
3202 A4
3203 A4
3204 B3
3205 B4
3206 B4
3207 B6
3208 B6
3209 B6
3210 B6
3211 B6
3212 B6
3213 B6
3214 B7
3215 B6
3216 A6
3217 B7
3218 B7
3219 B7
3220 B7
3222 B8
3223 B8
3224 B8
3225 B8
3226 B9
3227 C8
3228 D2
3229 C9
3230 B9
3231 B9
3232 B9
3233 B9
3234 B9
3235 B9
3236 B9
3237 C9
3238 C10
3239 C10
3240 B10
3241 B10
3242 C10
3243 C10
3244 D2
3245 C10
3246 C11
3247 B11
3248 B11
3249 A11
3250 D2
3251 D3
3252 D3
3253 D3
3254 F3
3255 E2
3256 E2
3257 E3
3258 E2
3259 E2
3260 E3
3262 F3
3263 F3
3264 F4
3265 F4
3266 F4
3267 F4
3268 F5
3270 F7
3271 F7
3272 F8
3273 F8
3274 F8
3275 F9
3276 F9
3277 F10
3278 F11
3279 G11
3280 E4
3281 F8
3282 F3
3283 B8
3284 B8
3285 G6
3286 H6
3287 B7
3288 B7
3289 D2
3290 B8
3291 F2
3292 F2
3293 G2
3294 G2
3295 F8
3296 B5
4201 F5
4202 F5
4203 F5
4204 C9
4205 C9
4206 F3
4207 E2
4208 E2
4209 E3
4211 A4
4212 B4
4213 F5
4214 F5
4215 F5
5201 B5
5202 B5
5203 B7
5204 D5
5205 D5
5206 D4
5207 D4
5208 D5
5209 D5
5210 D5
5211 E5
5212 E5
5213 E5
5214 G9
5215 F10
5216 F10
5217 H7
5218 F2
6201 E4
6204 C11
6205 C11
6206 C12
7201-1 B1
7201-2 C2
7202-1 C2
7202-2 C3
7203-1 C3
7203-2 C3
7204-1 A4
7204-2 A3
7205-1 B4
7205-2 B4
7206 B6
7207 B11
7208 D2
7209 D2
7210 D3
7211 F4
7214 G3
7215 G4
7216-1 G3
7216-2 G3
7217 C6
7218 F11
7219 F2
F201 B2
F202 B2
F203 B3
F204 B3
F205 B6
F206 B6
F207 C7
F208 C7
F209 B7
F210 F1
F211 C9
F212 C8
F213 C10
F214 C10
F215 C10
F216 C10
F218 A11
F219 B12
F220 D3
F221 D3
F222 D5
F223 D5
F224 D5
F225 D5
F226 D5
F227 D4
F228 E5
F229 E5
F230 G4
F231 G4
F232 F5
F233 F5
F234 F5
F235 F5
F236 F6
F237 F6
F238 F6
F239 F6
F240 F6
F241 G7
F242 G7
F243 G7
F244 F8
F245 F9
F246 F10
F247 D11
F248 F8
F249 E11
F250 A7
I201 A5
I202 B5
I203 B6
I204 B6
I205 B6
I206 A7
I207 C7
I208 B7
I209 C8
I210 C8
I211 B8
I212 B9
I213 C10
I214 C10
I215 C10
I216 C10
I217 C11
I218 D3
I219 C5
I220 D5
I221 D5
I222 D5
I223 D5
I224 E5
I225 C10
I226 F8
I227 F6
I228 F7
I229 F7
I230 F7
I231 F7
I232 F8
I233 F8
I234 F8
I235 F8
I236 F8
I237 F8
I238 F9
I239 F9
I240 F10
I241 B10
I242 F4
I243 C4
I244 B7
I246 D2
I247 D4
I248 D4
I254 F6
I255 F6
I256 E7
I257 E7
I258 E7
I259 F8
I262 F8
I264 F9
I265 F10
I266 F10
I267 F11
I268 G11
I269 C11
I270 B11
I271 B10
I272 B10
I273 C9
I274 A9
I275 A9
I277 C8
I278 C8
I283 B6
I284 B6
I285 B6
I288 B6
I289 A3
I290 A3
I291 A4
I292 B3
I293 B3
I294 B3
I297 B8
I298 C7

## SSB: Sync Interface


1
2
3
4
5
6
7
8
9
A
B
C
D
E
B3
SYNC INTERFACE
B3
B2
B17
TO SIDE CONNECTORS
LED_SEL
I454
0V
7430
PDTC114ET
3V1
+3V3STBY
3431
1K0
+5VSW
6430
BZX384-C2V7
I453
6431
1N4148
I430
3432
RES
ITV_IR_SW_RESET
HOUT
+3V3STBY
3451
4K7
I443
4436
RES
+3V3SW
7436-1
74LVC14APW
3453
100R
1
14
2
7
3454
100R
Hsync_SDTV
B19
B18
B13
VSYNC
I440
4437
RES
+3V3SW
7436-2
74LVC14APW
3455
100R
3
14
4
7
3456
100R
Vsync_SDTV
B18
COL_HREF
4440
3458
100R
H_DELAY
4438
RES
B19
+3V3SW
7436-3
74LVC14APW
5
14
6
7
3463
RES
+3V3SW
7436-4
74LVC14APW
9
14
8
7
3459
100R
H_1FH
B7
COL_VA
4441
3461
100R
Vsync_SDTV
4439
RES
B13
+3V3SW
7436-6
74LVC14APW
13
14
12
7
+3V3SW
7436-5
74LVC14APW
11
14
10
7
2449
100n
3462
100R
V_1FH
SC1_CVBS_RF_OUT
B2 &
B15
1440
1
2
3
4
5
7
6
I449
I450
BM05B-SRSS-TBT
+12VSW
5431
I451
2447
10p
2448
10p
(NC)
I452
1441
1
2
3
5
4
S3B-PH-SM4-TB
FOR ITV ONLY
3139 123 6093.1
F_15430_003.eps
140405

| | |
|---|---|
| 1440 | D9 |
| 1441 | E9 |
| 2447 | E8 |
| 2448 | E9 |
| 2449 | E4 |
| 3431 | A3 |
| 3432 | B3 |
| 3451 | A5 |
| 3453 | B6 |
| 3454 | B7 |
| 3455 | C6 |
| 3456 | C7 |
| 3458 | D2 |
| 3459 | D4 |
| 3461 | E2 |
| 3462 | E4 |
| 3463 | C4 |
| 4436 | A6 |
| 4437 | B6 |
| 4438 | D2 |
| 4439 | E2 |
| 4440 | D2 |
| 4441 | E2 |
| 5431 | E8 |
| 6430 | A3 |
| 6431 | B3 |
| 7430 | B3 |
| 7436-1 | A6 |
| 7436-2 | C7 |
| 7436-3 | D3 |
| 7436-4 | D4 |
| 7436-5 | E4 |
| 7436-6 | E3 |
| I430 | B3 |
| I440 | C6 |
| I443 | B5 |
| I449 | D8 |
| I450 | D8 |
| I451 | E9 |
| I452 | E9 |
| I453 | B3 |
| I454 | B2 |

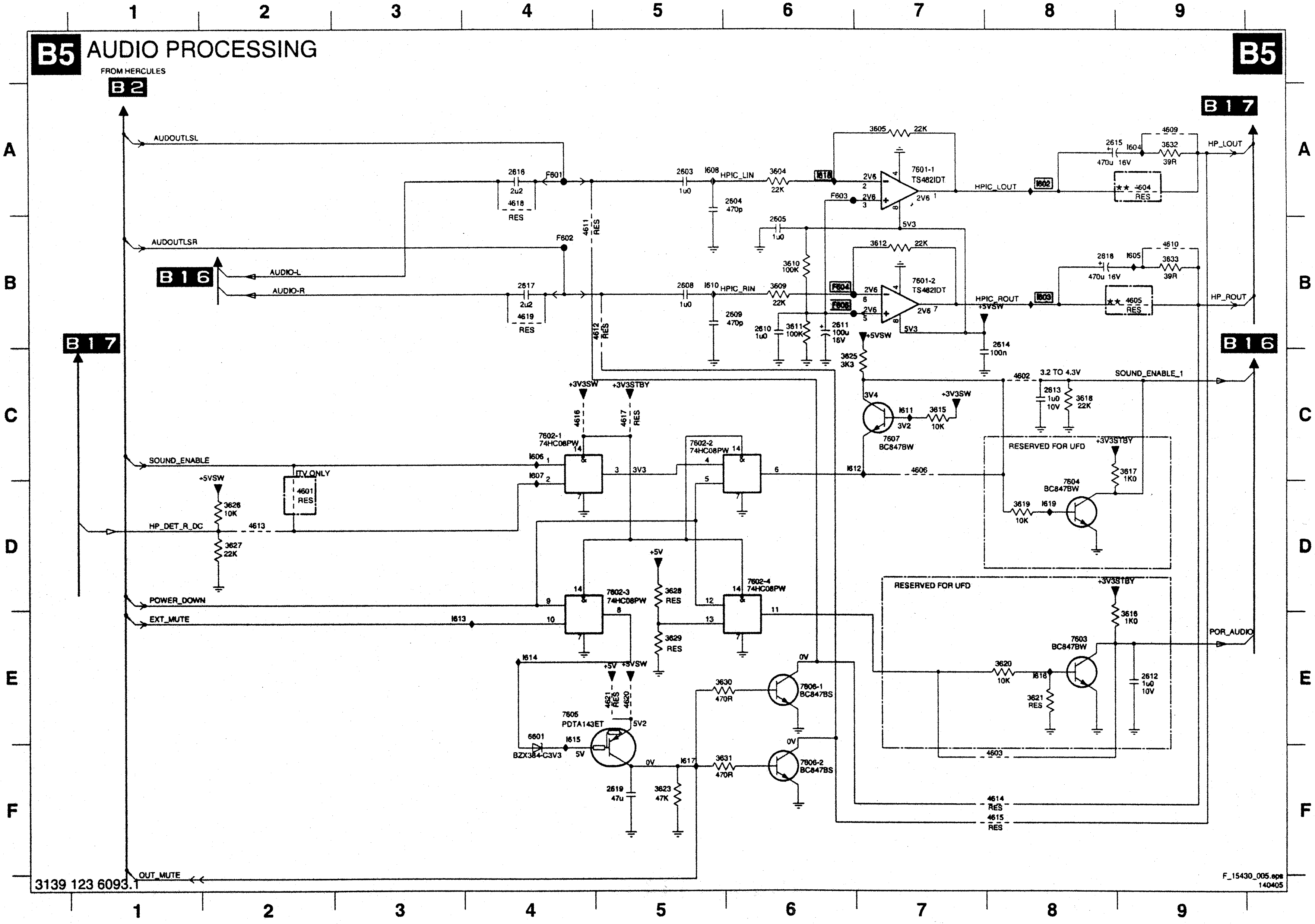
## SSB: Audio Delay line (Reserved)


B4
AUDIO DELAY LINE (RESERVED)
B4
1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
+5VSWI
5501 1u0
F501
+5VD
COUNTER
7501
M74HC590T
2501
100n
EN3
VCC
C2
G1
CTR8
1+ (CT=256)Z4
CT=0
2D0 3∇
GND
7502
CY62256LL-70ZC
RAM
32kx8
A 0 32k-1
2EN
2C1
G2
2502
100n
F502
LATCH
7505
74HC573PW
2504
100n
EN
C1
1D
7506
74HC573PW
2505
100n
4507 RES
4508 RES
4509 RES
4510 RES
4511 RES
4512 RES
4513 RES
4514
F503
I2SDI1
2506
330p
B2
F504
I2SDO1
2507
470p
2503
100n
7503
M74HC590T
COUNTER
I503
4501
I504
4502
I505
4503
4504
4505 RES
4506 RES
3501
470R
7504
BC847BW
I501
I502
2508
82p
3502
47K
2509
82p
F505
I2SCLK
3139 123 6093.1
F_15430_004.eps
140405

| ★ | LCD | PDP |
|---|---|---|
| 4503 | N | Y |
| 4504 | Y | N |

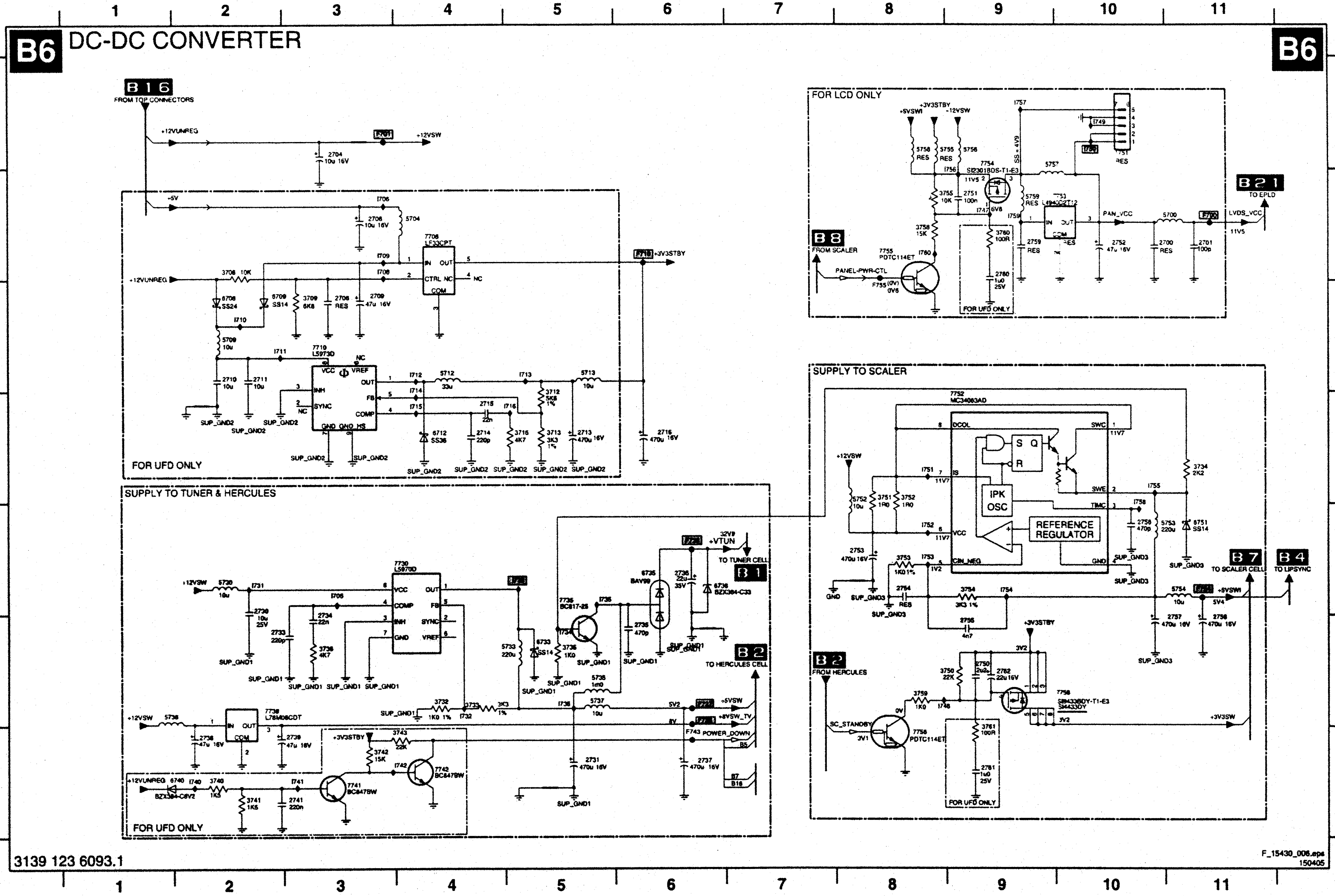
| | |
|---|---|
| 2501 | A2 |
| 2502 | B2 |
| 2503 | D2 |
| 2504 | B8 |
| 2505 | B9 |
| 2506 | C10 |
| 2507 | D10 |
| 2508 | F6 |
| 2509 | F7 |
| 3501 | F6 |
| 3502 | F6 |
| 4501 | E2 |
| 4502 | F2 |
| 4503 | F2 |
| 4504 | F3 |
| 4505 | F3 |
| 4506 | F3 |
| 4507 | C9 |
| 4508 | C9 |
| 4509 | C9 |
| 4510 | C9 |
| 4511 | C9 |
| 4512 | C9 |
| 4513 | C9 |
| 4514 | C9 |
| 5501 | A1 |
| 7501 | A1 |
| 7502 | B3 |
| 7503 | F1 |
| 7504 | F6 |
| 7505 | B7 |
| 7506 | B8 |
| F501 | A2 |
| F502 | B2 |
| F503 | C10 |
| F504 | D10 |
| F505 | F10 |
| I501 | F5 |
| I502 | F6 |
| I503 | E2 |
| I504 | E2 |
| I505 | F2 |

## SSB: Audio Processing


1
2
3
4
5
6
7
8
9
A
B
C
D
E
F
B5
AUDIO PROCESSING
B5
FROM HERCULES
B2
B17
AUDOUTLSL
AUDOUTLSR
B16
AUDIO-L
AUDIO-R
B17
SOUND_ENABLE
HP_DET_R_DC
POWER_DOWN
EXT_MUTE
OUT_MUTE
2616
2u2
4618
RES
F601
2617
2u2
4619
RES
F602
4611 RES
4612 RES
2603
1u0
I608
HPIC_LIN
3604
22K
2604
470p
I618
2608
1u0
I610
HPIC_RIN
3609
22K
2609
470p
I604
I605
2605
1u0
3610
100K
2610
1u0
3611
100K
2611
100u
16V
F603
3605 22K
3612 22K
7601-1
TS482IDT
7601-2
TS482IDT
2V6
5V3
HPIC_LOUT
HPIC_ROUT
+5VSW
I602
I603
2614
100n
2615
470u 16V
I604
3632
39R
4609
4604
RES
2618
470u 16V
I605
3633
39R
4610
4605
RES
HP_LOUT
HP_ROUT
B17
B16
+5VSW
3625
3K3
3V4
7607
BC847BW
I611
3V2
3615
10K
+3V3SW
4602
3.2 TO 4.3V
2613
1u0
10V
3618
22K
SOUND_ENABLE_1
+3V3SW
+3V3STBY
4616
4617 RES
7602-1
74HC08PW
I606
I607
3V3
7602-2
74HC08PW
I612
4606
ITV ONLY
4601
RES
+5VSW
3626
10K
4613
3627
22K
RESERVED FOR UFD
+3V3STBY
3617
1K0
7604
BC847BW
3619
10K
I619
7602-3
74HC08PW
+5V
3628
RES
3629
RES
7602-4
74HC08PW
I613
RESERVED FOR UFD
+3V3STBY
3616
1K0
7603
BC847BW
POR_AUDIO
3620
10K
I616
3621
RES
2612
1u0
10V
4603
I614
+5V
+5VSW
4621 RES
4620 RES
7605
PDTA143ET
5V2
6601
BZX384-C3V3
I615
5V
0V
2619
47u
3623
47K
I617
3630
470R
3631
470R
0V
7606-1
BC847BS
7606-2
BC847BS
4614
RES
4615
RES
3139 123 6093.1
F_15430_005.eps
140405

| | |
|---|---|
| 2603 | A5 |
| 2604 | A6 |
| 2605 | B6 |
| 2608 | B5 |
| 2609 | B6 |
| 2610 | B6 |
| 2611 | B6 |
| 2612 | E9 |
| 2613 | C8 |
| 2614 | B8 |
| 2615 | A8 |
| 2616 | A4 |
| 2617 | B4 |
| 2618 | B8 |
| 2619 | F5 |
| 3604 | A6 |
| 3605 | A7 |
| 3609 | B6 |
| 3610 | B6 |
| 3611 | B6 |
| 3612 | B7 |
| 3615 | C7 |
| 3616 | E9 |
| 3617 | C9 |
| 3618 | C8 |
| 3619 | D8 |
| 3620 | E8 |
| 3621 | E8 |
| 3623 | F5 |
| 3625 | C6 |
| 3626 | D2 |
| 3627 | D2 |
| 3628 | D5 |
| 3629 | E5 |
| 3630 | E5 |
| 3631 | F5 |
| 3632 | A9 |
| 3633 | B9 |
| 4601 | D2 |
| 4602 | C8 |
| 4603 | F8 |
| 4604 | A9 |
| 4605 | B9 |
| 4606 | C7 |
| 4609 | A9 |
| 4610 | B9 |
| 4611 | B4 |
| 4612 | B4 |
| 4613 | D2 |
| 4614 | F8 |
| 4615 | F8 |
| 4616 | C4 |
| 4617 | C5 |
| 4618 | A4 |
| 4619 | B4 |
| 4620 | E5 |
| 4621 | E5 |
| 6601 | E4 |
| 7601-1 | A7 |
| 7601-2 | B7 |
| 7602-1 | C4 |
| 7602-2 | C5 |
| 7602-3 | D5 |
| 7602-4 | D6 |
| 7603 | E8 |
| 7604 | D8 |
| 7605 | E4 |
| 7606-1 | E6 |
| 7606-2 | F6 |
| 7607 | C7 |
| F601 | A4 |
| F602 | B4 |
| F603 | A6 |
| F604 | B6 |
| F605 | B6 |
| I602 | A8 |
| I603 | B8 |
| I604 | A9 |
| I605 | B9 |
| I606 | C4 |
| I607 | C4 |
| I608 | A5 |
| I610 | B5 |
| I611 | C7 |
| I612 | C6 |
| I613 | E3 |
| I614 | E4 |
| I615 | E4 |
| I616 | E8 |
| I617 | F5 |
| I618 | A6 |
| I619 | D8 |

## SSB: DC-DC Converter


B6
DC-DC CONVERTER
B16
FROM TOP CONNECTORS
+12VUNREG
F701
+12VSW
2704
10u 16V
+5V
I706
2706
10u 16V
5704
7708
LF33CPT
IN OUT
CTRL NC
COM
NC
I709
I708
3708 10K
+12VUNREG
6708
SS24
6709
SS14
3709
6K8
2708
RES
2709
47u 16V
I710
5709
10u
I711
7710
L5973D
VCC VREF
INH
SYNC
OUT
FB
COMP
GND GND HS
NC
2710
10u
2711
10u
SUP_GND2
I712
5712
33u
I713
5713
10u
I714
I715
2715
22n
I716
3712
5K6
1%
6712
SS36
2714
220p
3716
4K7
3713
3K3
1%
2713
470u 16V
2716
470u 16V
F710
+3V3STBY
FOR UFD ONLY
SUPPLY TO TUNER & HERCULES
+12VSW
5730
10u
I731
2730
10u
25V
SUP_GND1
7730
L5970D
VCC OUT
COMP FB
INH SYNC
GND VREF
I705
2733
220p
2734
22n
3736
4K7
5733
220u
6733
SS14
7735
BC817-25
I734
I735
3735
1K0
2735
470p
6735
BAV99
2736
22u
35V
6736
BZX384-C33
F736
32V9
+VTUN
TO TUNER CELL
B1
B2
TO HERCULES CELL
5735
1m0
3732
1K0 1%
I732
3733
3K3
1%
I736
5737
10u
5V2
F737
+5VSW
8V
F738
+8VSW_TV
F743
POWER_DOWN
B5
B7
B16
+12VSW
5738
7738
L78M08CDT
IN OUT
COM
2738
47u 16V
2739
47u 16V
+3V3STBY
3743
22K
3742
15K
I742
7742
BC847BW
2731
470u 16V
2737
470u 16V
+12VUNREG
6740
BZX384-C8V2
I740
3740
1K5
3741
1K5
2741
220n
I741
7741
BC847BW
FOR UFD ONLY
FOR LCD ONLY
+5VSWI
+3V3STBY
-12VSW
5758
RES
5755
RES
5756
I756
7754
SI2301BDS-T1-E3
11V5
6V8
I747
3755
10K
2751
100n
3758
15K
I757
SS = 4V9
I749
I750
1751
RES
5757
5759
RES
7753
L4940C2T12
IN OUT
COM
I759
PAN_VCC
5700
F700
LVDS_VCC
11V5
B21
TO EPLD
B8
FROM SCALER
7755
PDTC114ET
I760
PANEL-PWR-CTL
F755
(0V)
0V6
3760
100R
2760
1u0
25V
FOR UFD ONLY
2759
RES
2752
47u 16V
2700
RES
2701
100p
SUPPLY TO SCALER
7752
MC34063AD
DCOL
SWC
11V7
S Q
R
IPK
OSC
REFERENCE
REGULATOR
IS
VCC
CIN_NEG
SWE
TIMC
GND
+12VSW
5752
10u
3751
1R0
3752
1R0
I751
I752
11V7
2753
470u 16V
3753
1K0 1%
I753
1V2
GND
SUP_GND3
2754
RES
3754
3K3 1%
I754
2755
4n7
3734
2K2
I755
I758
2756
470p
5753
220u
6751
SS14
5754
10u
F754
+5VSWI
5V4
2757
470u 16V
2758
470u 16V
B7
TO SCALER CELL
B4
TO LIPSYNC
+3V3STBY
3V2
B2
FROM HERCULES
3750
22K
2750
2u2
2762
22u 16V
3759
1K0
I748
0V
SC_STANDBY
3V1
7756
PDTC114ET
7758
SI4433BDY-T1-E3
SI4433DY
+3V3SW
3761
100R
2761
1u0
25V
FOR UFD ONLY
3139 123 6093.1
F_15430_006.eps
150405
1 2 3 4 5 6 7 8 9 10 11
A B C D E F G

| | |
|---|---|
| 1751 | A10 |
| 2700 | B11 |
| 2701 | B11 |
| 2704 | A3 |
| 2706 | B3 |
| 2708 | C3 |
| 2709 | C3 |
| 2710 | C2 |
| 2711 | C2 |
| 2713 | D5 |
| 2714 | D4 |
| 2715 | D4 |
| 2716 | D6 |
| 2730 | E2 |
| 2731 | G5 |
| 2733 | F2 |
| 2734 | E3 |
| 2735 | F6 |
| 2736 | E6 |
| 2737 | G6 |
| 2738 | G2 |
| 2739 | G3 |
| 2741 | G3 |
| 2750 | F9 |
| 2751 | B9 |
| 2752 | B10 |
| 2753 | E8 |
| 2754 | E8 |
| 2755 | F9 |
| 2756 | E10 |
| 2757 | E11 |
| 2758 | E11 |
| 2759 | B9 |
| 2760 | B9 |
| 2761 | G9 |
| 2762 | F9 |
| 3708 | B2 |
| 3709 | C3 |
| 3712 | D5 |
| 3713 | D5 |
| 3716 | D5 |
| 3732 | F4 |
| 3733 | F4 |
| 3734 | D11 |
| 3735 | F5 |
| 3736 | F3 |
| 3740 | G2 |
| 3741 | G2 |
| 3742 | G3 |
| 3743 | G4 |
| 3750 | F9 |
| 3751 | D8 |
| 3752 | D8 |
| 3753 | E8 |
| 3754 | E9 |
| 3755 | B9 |
| 3758 | B8 |
| 3759 | F8 |
| 3760 | B9 |
| 3761 | F9 |
| 5700 | B11 |
| 5704 | B4 |
| 5709 | C2 |
| 5712 | C4 |
| 5713 | C5 |
| 5730 | E2 |
| 5733 | F5 |
| 5735 | F5 |
| 5737 | F5 |
| 5738 | F1 |
| 5752 | D8 |
| 5753 | E11 |
| 5754 | E11 |
| 5755 | A9 |
| 5756 | A9 |
| 5757 | A9 |
| 5758 | A8 |
| 5759 | B9 |
| 6708 | C2 |
| 6709 | C2 |
| 6712 | D4 |
| 6733 | F5 |
| 6735 | E6 |
| 6736 | E6 |
| 6740 | G2 |
| 6751 | E11 |
| 7708 | B4 |
| 7710 | C3 |
| 7730 | E3 |
| 7735 | E5 |
| 7738 | F2 |
| 7741 | G3 |
| 7742 | G4 |
| 7752 | D9 |
| 7753 | B10 |
| 7754 | A9 |
| 7755 | B8 |
| 7756 | G8 |
| 7758 | F10 |
| F700 | B11 |
| F701 | A3 |
| F710 | B6 |
| F736 | E6 |
| F737 | F6 |
| F738 | F6 |
| F743 | G6 |
| F754 | E11 |
| F755 | C8 |
| I705 | E3 |
| I706 | B3 |
| I708 | B3 |
| I709 | B3 |
| I710 | C2 |
| I711 | C2 |
| I712 | C4 |
| I713 | C5 |
| I714 | C4 |
| I715 | D4 |
| I716 | D5 |
| I731 | E2 |
| I732 | F4 |
| I733 | E5 |
| I734 | F5 |
| I735 | E5 |
| I736 | F5 |
| I740 | G2 |
| I741 | G3 |
| I742 | G4 |
| I747 | B9 |
| I748 | F8 |
| I749 | A10 |
| I750 | A10 |
| I751 | D8 |
| I752 | E8 |
| I753 | E8 |
| I754 | E9 |
| I755 | D10 |
| I756 | B9 |
| I757 | A9 |
| I758 | D10 |
| I759 | B9 |
| I760 | B8 |

# SSB: Diversity Tables B1-B6

## B1 TUNER & IF

| Item | AP - non China | Europe | NAFTA/LT | AP - DVB | Europe - DVB | China | Description |
|---|---|---|---|---|---|---|---|
| 1102 | | | | | | V | TUN V+U PLL IEC BGDKM B |
| 1102 | | V | | | | | TUN V+U PLL IEC BGHIL B |
| 1102 | | | V | | | | TUNER UV1338/A F S H-4 |
| 1102 | V | | | | | | TUNER UV1316E/A I H-4 |
| 1102 | | | | V | V | | TUNER UV1318SD/A CP H N-4 |
| 1104 | | V | | | V | | FIL SAW SM 38MHZ9 OFWK3953L R |
| 1104 | | | | | | V | FIL SAW SM 38MHZ OFWM3956L R |
| 1104 | | | V | | | | FIL SAW SM 45MHZ75 OFWM1967L R |
| 1104 | V | | | V | | | FIL SAW SM 38MHZ9 OFWK7265L R |
| 1105 | | | | | | V | FIL SAW SM 38MHZ OFWK3955L R |
| 1106 | | V | | | V | | FIL SAW SM 38MHZ9 OFWK9656L R |
| 1106 | | | | | | V | FIL SAW SM 38MHZ OFWK9352L R |
| 1106 | V | | | V | | | FIL SAW SM 38MHZ9 OFWK9361L R |
| 3101 | V | | V | | | V | RST SM 0603 100R PM5 COL |
| 3102 | V | | V | | | V | RST SM 0603 100R PM5 COL |
| 3104 | | V | | | V | | RST SM 0603 10K PM5COL |
| 3104 | V | | V | V | | V | RST SM 0603 JUMP. 0R05 COL |
| 3107 | V | V | | V | V | V | RST SM 0603 6K8 PM5 COL |
| 3108 | V | V | | V | V | V | RST SM 0603 2K2 PM5 COL |
| 3109 | V | V | | V | V | V | RST SM 0603 2K2 PM5 COL |
| 3110 | | | | | | V | RST SM 0603 2K2 PM5 COL |
| 3111 | V | V | | V | V | V | RST SM 0603 22K PM5 COL |
| 3112 | V | V | | V | V | V | RST SM 0603 18K PM5 COL |
| 3113 | | | | | | V | RST SM 0603 22K PM5 COL |
| 3114 | | | | | | V | RST SM 0603 47K PM5 COL |
| 4102 | V | V | V | V | V | | RST SM 0603 JUMP. 0R05 COL |
| 4103 | | | | | | V | RST SM 0603 JUMP. 0R05 COL |
| 4104 | V | | | V | | | RST SM 0603 JUMP. 0R05 COL |
| 4106 | | V | V | | V | V | RST SM 0603 JUMP. 0R05 COL |
| 4107 | | | | | | V | RST SM 0603 JUMP. 0R05 COL |
| 4108 | | | | | | V | RST SM 0603 JUMP. 0R05 COL |
| 4110 | V | V | | V | V | V | RST SM 0603 JUMP. 0R05 COL |
| 4111 | | V | | | V | | RST SM 0603 JUMP. 0R05 COL |
| 4113 | V | | | V | | V | RST SM 0603 JUMP. 0R05 COL |
| 5101 | V | V | | V | V | V | FXDIND SM 0805 0U39 PM10 COL R |
| 5101 | | | V | | | | FXDIND SM 0805 0U68 PM10 COL R |
| 5102 | V | V | V | V | | V | FXDIND SM 0805 12U PM10 COL R |
| 5102 | | | | | V | | FXDIND SM 1008 6U8 PM5 COL R |
| 5107 | | | | V | V | | FXDIND 0603 100MHZ 600R COL R |
| 5107 | | V | | | | | RST SM 0603 100R PM5 COL |
| 5108 | | | | V | V | | FXDIND 0603 100MHZ 600R COL R |
| 5108 | | V | | | | | RST SM 0603 100R PM5 COL |
| 6103 | | V | | | V | | DIO SIG SM BAS316 (COL) R |
| 6105 | | | | | | V | DIO SIG SM 1SS356 (RHM0) R |
| 7101 | V | V | | V | V | V | TRA SIG SM BC847BW (COL) R |
| 7102 | | | | | | V | TRA SIG SM BC847BW (COL) R |

## B2 HERCULES

| Item | LC4.3A AB (DVB-T) | LC4.3E AB/LC4.8E AB/LC4.9E AB (DVB-T) | LC4.3U/L | LC4.3E/LC4.8E/LC4.9E | LC4.3E W/O 3D COMB FILTER | LC4.3A - CHINA | LC4.3A - AP (non-China) | Description |
|---|---|---|---|---|---|---|---|---|
| 2203 | V | V | | V | V | V | V | ELCAP SM 16V 10U PM20 COL R |
| 2229 | | | V | | | | | CER2 0805 X5R 6V3 10U PM10 R |
| 2244 | V | V | | V | V | | | CER2 0402 Y5V 16V 100N COL |
| 2245 | V | V | | V | V | | | CER2 0402 Y5V 16V 100N COL |
| 2246 | V | V | | V | V | | | CER2 0402 Y5V 16V 100N COL |
| 2255 | V | V | V | V | | V | V | CER2 0402 Y5V 16V 100N COL |
| 2286 | V | V | V | V | | V | V | CER2 0402 Y5V 16V 100N COL |
| 2289 | V | | | | | | | CER2 0805 Y5V 10V 4U7 P8020 R |
| 2289 | | | | V | | | | RST SM 0603 150R PM5 COL |
| 2290 | V | V | | V | V | | | CER2 0805 Y5V 10V 4U7 P8020 R |
| 2291 | V | V | | V | | | | CER2 0402 Y5V 16V 100N COL |
| 2292 | | V | | | | | | CER2 0402 Y5V 16V 100N COL |
| 3250 | | V | | V | V | V | V | RST SM 0402 100R PM5 COL |
| 3251 | | V | | V | V | V | V | RST SM 0402 100R PM5 COL |
| 3252 | | V | | V | V | V | V | RST SM 0402 100R PM5 COL |
| 3253 | | V | | V | V | V | V | RST SM 0402 100R PM5 COL |
| 3255 | | V | | V | V | V | V | RST SM 0402 JUMP. 0R05 COL |
| 3256 | | V | | V | V | V | V | RST SM 0402 JUMP. 0R05 COL |
| 3257 | | V | | V | V | V | V | RST SM 0402 JUMP. 0R05 COL |
| 3258 | | V | | V | V | V | V | RST SM 0402 1K PM5 COL |
| 3259 | | V | | V | V | V | V | RST SM 0402 1K PM5 COL |
| 3260 | | V | | V | V | V | V | RST SM 0402 1K PM5 COL |
| 3270 | | | | | | | | RST SM 0402 10K PM5 COL |
| 3282 | | V | | | | | | RST SM 0603 150R PM5 COL |
| 3285 | V | V | V | V | | V | V | RST SM 0402 JUMP. 0R05 COL |
| 3286 | V | V | V | V | | V | V | RST SM 0402 100R PM5 COL |
| 3291 | V | | | | | | | RST SM 0402 47K PM5 COL |
| 3292 | | V | | V | | | | RST SM 0402 12K PM5 COL |
| 3292 | V | | | | | | | RST SM 0402 47K PM5 COL |
| 3293 | V | | | | | | | RST SM 0402 47K PM5 COL |
| 3294 | V | V | | V | | | | RST SM 0402 47K PM5 COL |
| 3295 | V | V | | V | V | V | V | RST SM 0402 100K PM5 COL |
| 3296 | V | V | | | | | | RST SM 0402 100R PM5 COL |
| 4206 | | | V | | V | V | V | RST SM 0805 JUMP. 0R05 COL R |
| 4213 | V | V | | | | | | RST SM 0402 JUMP. 0R05 COL |
| 4214 | V | V | | | | | | RST SM 0402 JUMP. 0R05 COL |
| 4215 | V | V | | | | | | RST SM 0402 JUMP. 0R05 COL |
| 5218 | V | V | | V | | | | IND FXD 1206 EMI 100MHZ 120R R |
| 6206 | V | V | | | | | | DIO SIG SM BAT54 SOD323 COL R |
| 7208 | | V | | V | V | V | V | TRA SIG SM BC847BW (COL) R |
| 7209 | | V | | V | V | V | V | TRA SIG SM BC847BW (COL) R |
| 7210 | | V | | V | V | V | V | TRA SIG SM BC847BW (COL) R |
| 7217 | | | V | | | V | | IC SM TDA15011H/N1BD0 (PHSE) Y |
| 7217 | V | V | | V | V | | V | IC SM TDA15021H/N1B91 (PHSE) Y |
| 7219 | V | V | | V | | | | IC SM 74HC4053D (PHSE) R |

## B3 SYNC INTERFACE

| Item | 26/32PFxxxx - AP/NAFTA/LT | EU & AP DVB sets | LC4.3E/LC4.9x/LC4.8x/LC4.3A-China | 26PF4310/10 | Description |
|---|---|---|---|---|---|
| 2449 | V | V | V | | CER2 0402 Y5V 16V 100N COL |
| 3432 | | V | | | RST SM 0402 2K7 PM5 COL |
| 3458 | V | V | V | | RST SM 0402 100R PM5 COL |
| 3459 | V | V | V | | RST SM 0402 100R PM5 COL |
| 3461 | V | V | V | | RST SM 0402 100R PM5 COL |
| 3462 | V | V | V | | RST SM 0402 100R PM5 COL |
| 4436 | | | | V | RST SM 0402 JUMP. 0R05 COL |
| 4437 | | | | V | RST SM 0402 JUMP. 0R05 COL |
| 4440 | V | V | V | | RST SM 0402 JUMP. 0R05 COL |
| 4441 | V | V | V | | RST SM 0402 JUMP. 0R05 COL |
| 6430 | V | | V | V | DIO REG SM PDZ2.4B (PHSE) R |
| 6431 | V | | V | V | DIO SIG SM 1N4148WS (VISH) R |
| 7436 | V | V | V | | IC SM 74LVC14APW (PHSE) R |

## B5 AUDIO WITHOUT AMPLIFIER

| Item | 26/32PF | 37/42/50PF | Description |
|---|---|---|---|
| 2612 | | V | CER2 0603 Y5V 10V 1U COL |
| 2613 | V | | CER2 0603 Y5V 10V 1U COL |
| 2616 | V | | CER2 0603 X5R 6V3 2U2 PM10 R |
| 2617 | V | | CER2 0603 X5R 6V3 2U2 PM10 R |
| 3615 | V | | RST SM 0402 10K PM5 COL |
| 3616 | | V | RST SM 0402 1K PM5 COL |
| 3617 | | V | RST SM 0402 1K PM5 COL |
| 3618 | V | | RST SM 0402 22K PM5 COL |
| 3619 | | V | RST SM 0402 10K PM5 COL |
| 3620 | | V | RST SM 0402 10K PM5 COL |
| 3623 | V | | RST SM 0402 47K PM5 COL |
| 3625 | V | | RST SM 0402 3K3 PM5 COL |
| 3627 | V | | RST SM 0402 22K PM5 COL |
| 3628 | | V | RST SM 0402 10K PM5 COL |
| 3629 | | V | RST SM 0402 22K PM5 COL |
| 3630 | V | | RST SM 0402 330R PM5 COL |
| 3630 | | V | RST SM 0402 470R PM5 COL |
| 3631 | V | | RST SM 0402 330R PM5 COL |
| 3631 | | V | RST SM 0402 470R PM5 COL |
| 3632 | | V | RST SM 0402 RC31 39R PM5 R |
| 3633 | | V | RST SM 0402 RC31 39R PM5 R |
| 4601 | | V | RST SM 0603 JUMP. 0R05 COL |
| 4602 | V | | RST SM 0603 JUMP. 0R05 COL |
| 4603 | V | | RST SM 0603 JUMP. 0R05 COL |
| 4606 | | V | RST SM 0603 JUMP. 0R05 COL |
| 4609 | V | | RST SM 0603 JUMP. 0R05 COL |
| 4610 | V | | RST SM 0603 JUMP. 0R05 COL |
| 4611 | V | | RST SM 0603 JUMP. 0R05 COL |
| 4612 | V | | RST SM 0603 JUMP. 0R05 COL |
| 4613 | V | | RST SM 0603 JUMP. 0R05 COL |
| 4614 | | V | RST SM 0603 JUMP. 0R05 COL |
| 4615 | | V | RST SM 0603 JUMP. 0R05 COL |
| 4616 | V | | RST SM 0603 JUMP. 0R05 COL |
| 4617 | | V | RST SM 0603 JUMP. 0R05 COL |
| 4618 | | V | RST SM 0603 JUMP. 0R05 COL |
| 4619 | | V | RST SM 0603 JUMP. 0R05 COL |
| 4620 | V | | RST SM 0603 JUMP. 0R05 COL |
| 4621 | | V | RST SM 0603 JUMP. 0R05 COL |
| 7603 | | V | TRA SIG SM BC847BW (COL) R |
| 7604 | | V | TRA SIG SM BC847BW (COL) R |
| 7607 | V | | TRA SIG SM BC847BW (COL) R |

## B6 DC DC CONVERTER

| Item | 26/32PF LCD | 37/42PF LCD | 42/50PF PDP | DVB PDP 42PF | DVB LCD 37PF | Description |
|---|---|---|---|---|---|---|
| 2701 | V | V | | | V | CER1 0402 NP0 50V 100P COL |
| 2706 | | V | V | V | V | ELCAP SM 16V 10U PM20 COL R |
| 2709 | | V | V | V | V | ELCAP SM 16V 47U PM20 COL R |
| 2710 | | V | V | V | V | CER2 1210 Y5V 25V 10U P8020 R |
| 2711 | | V | V | V | V | CER2 1210 Y5V 25V 10U P8020 R |
| 2713 | | V | V | V | V | ELCAP SM SEV 16V 470U PM20 R |
| 2714 | | V | V | V | V | CER2 0402 X7R 50V 220P COL |
| 2715 | | V | V | V | V | CER2 0402 X7R 16V 22N PM10 R |
| 2741 | | V | V | V | V | CER2 0603 X7R 10V 220N COL |
| 2751 | V | V | | | V | CER2 0402 Y5V 16V 100N COL |
| 2752 | V | V | | | V | ELCAP SM 16V 47U PM20 COL R |
| 2760 | V | V | | | V | CER2 1206 X7R 25V 1U PM10 R |
| 2761 | | V | V | V | V | CER2 1206 X7R 25V 1U PM10 R |
| 3708 | | V | V | V | V | RST SM 0402 10K PM5 COL |
| 3709 | | V | V | V | V | RST SM 0402 6K8 PM5 COL |
| 3712 | | V | V | V | V | RST SM 0603 RC22H 5K6 PM1 R |
| 3713 | | V | V | V | V | RST SM 0603 RC22H 3K3 PM1 R |
| 3716 | | V | V | V | V | RST SM 0402 4K7 PM5 COL |
| 3740 | | V | V | V | V | RST SM 0402 1K5 PM5 COL |
| 3741 | | V | V | V | V | RST SM 0402 1K5 PM5 COL |
| 3742 | | V | V | V | V | RST SM 0402 15K PM5 COL |
| 3743 | | V | V | V | V | RST SM 0402 22K PM5 COL |
| 3755 | V | V | | | V | RST SM 0402 10K PM5 COL |
| 3758 | V | V | | | V | RST SM 0402 15K PM5 COL |
| 3760 | V | V | | | V | RST SM 0402 100R PM5 COL |
| 3761 | | V | V | V | V | RST SM 0402 100R PM5 COL |
| 5700 | V | V | | | V | IND FXD 1206 EMI 100MHZ 120R R |
| 5704 | | V | V | V | V | IND FXD SM 1206 10U PM20 R |
| 5709 | | V | V | V | V | IND FXD SM 7032 10U PM20 R |
| 5712 | | V | V | V | V | IND FXD SM 12565 33U PM20 R |
| 5713 | | V | V | V | V | INDFXD SM 10145 10U PM20 R |
| 5756 | V | V | | | V | IND FXD 1206 EMI 100MHZ 120R R |
| 5757 | V | V | | | V | IND FXD 1206 EMI 100MHZ 120R R |
| 6708 | | V | V | V | V | DIO REC SS24 COL R |
| 6709 | | V | V | V | V | DIO REC SS14 COL R |
| 6712 | | V | V | V | V | DIO REC SS36 COL R |
| 6740 | | V | V | V | V | DIO REG SM PDZ8.2B (PHSE) R |
| 7708 | | V | V | V | V | IC SM LF33CPT (ST00) R |
| 7710 | | V | V | V | V | IC SM E-L5973D (ST00) R |
| 7741 | | V | V | V | V | TRA SIG SM BC847BW (COL) R |
| 7742 | | V | V | V | V | TRA SIG SM BC847BW (COL) R |
| 7754 | V | V | | | V | FET POW SM SI2301BDS-E3(VISH)R |
| 7755 | V | V | | | V | TRA SIG SM PDTC114ET (COL) R |

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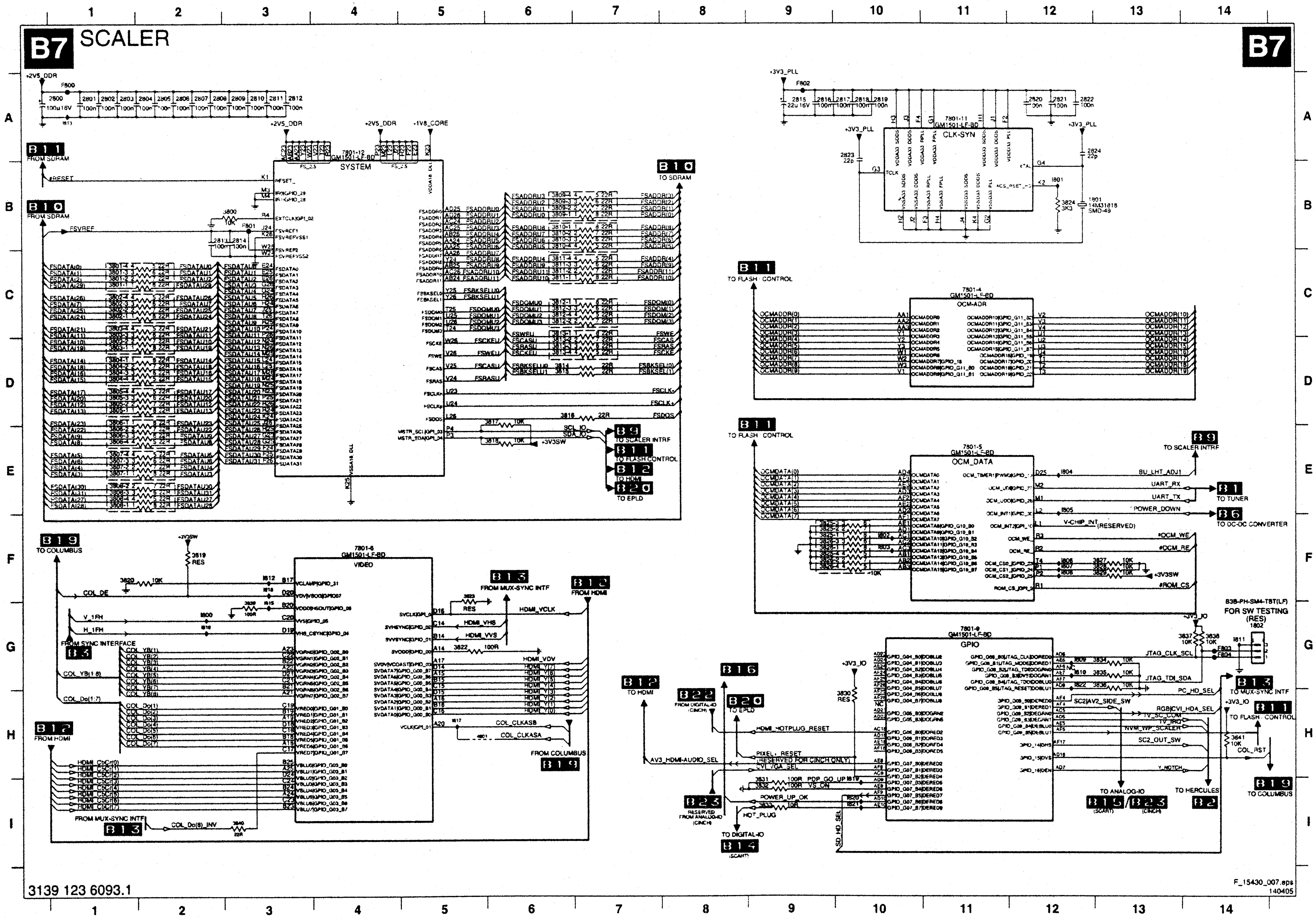
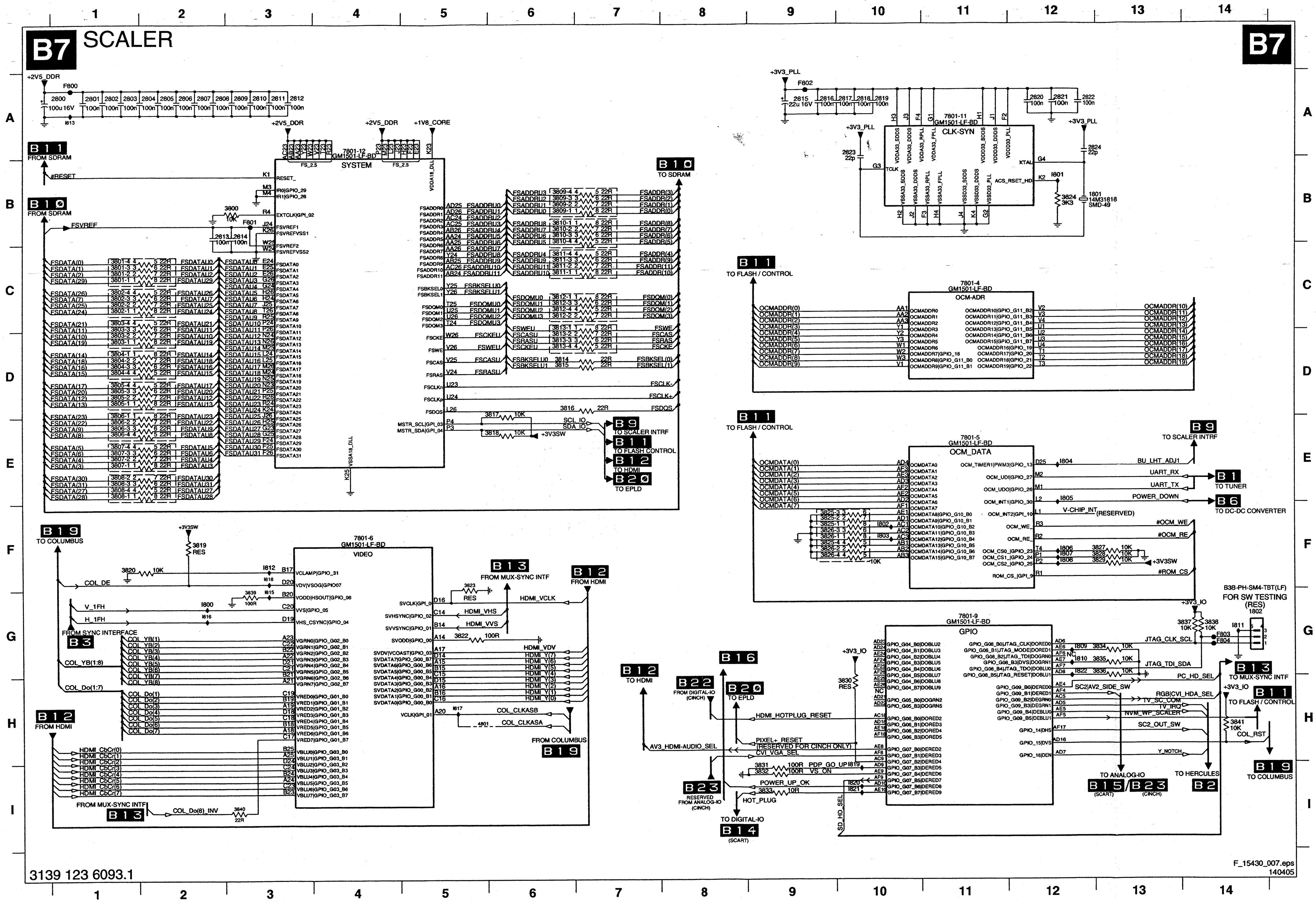
230505

## SSB: Scaler


B7
SCALER
7801-12 GM1501-LF-BD SYSTEM
7801-11 GM1501-LF-BD CLK-SYN
7801-4 GM1501-LF-BD OCM-ADR
7801-5 GM1501-LF-BD OCM_DATA
7801-6 GM1501-LF-BD VIDEO
7801-9 GM1501-LF-BD GPIO
+2V5_DDR
+1V8_CORE
+3V3_PLL
+3V3_IO
+3V3SW
B11 FROM SDRAM
B10 FROM SDRAM
B10 TO SDRAM
B11 TO FLASH CONTROL
B9 TO SCALER INTRF
B12 TO HDMI
B20 TO EPLD
B19 TO COLUMBUS
B13 FROM MUX-SYNC INTF
B12 FROM HDMI
B3 FROM SYNC INTERFACE
B19 FROM COLUMBUS
B1 TO TUNER
B6 TO DC-DC CONVERTER
B16
B22 FROM DIGITAL-IO (CINCH)
B23 RESERVED FROM ANALOG-IO (CINCH)
B14 TO DIGITAL-IO (SCART)
B15 TO ANALOG-IO (SCART)
B23 (CINCH)
B2 TO HERCULES
B13 TO MUX-SYNC INTF
B11 TO FLASH CONTROL
B19 TO COLUMBUS
B3B-PH-SM4-TBT(LF) FOR SW TESTING (RES) 1802
1801 14M31818 SMD-49
3139 123 6093.1
F_15430_007.eps
140405

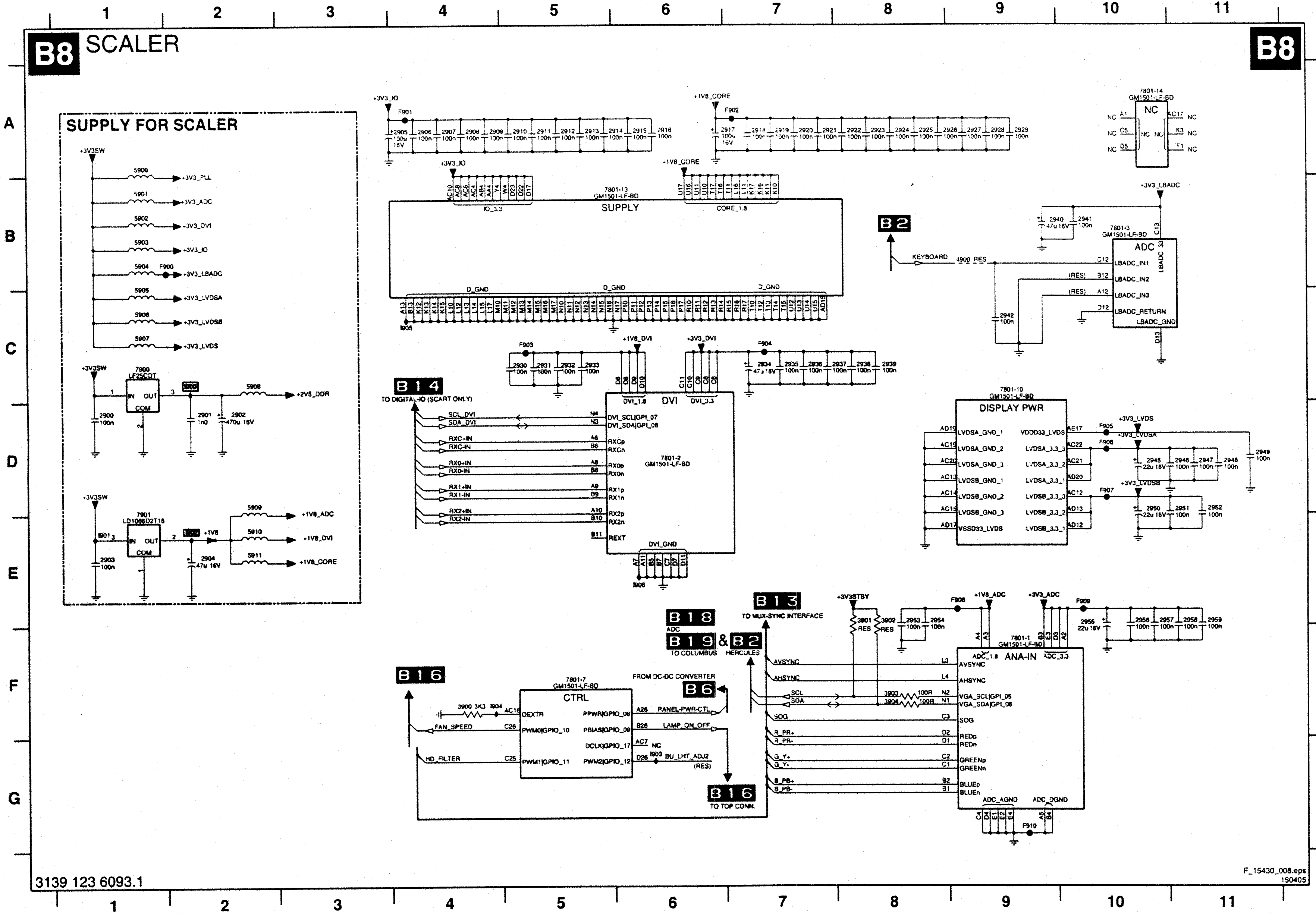
| | |
|---|---|
| 1801 | B12 |
| 1802 | G14 |
| 2800 | A1 |
| 2801 | A1 |
| 2802 | A1 |
| 2803 | A1 |
| 2804 | A2 |
| 2805 | A2 |
| 2806 | A2 |
| 2807 | A2 |
| 2808 | A2 |
| 2809 | A3 |
| 2810 | A3 |
| 2811 | A3 |
| 2812 | A3 |
| 2813 | B2 |
| 2814 | B3 |
| 2815 | A9 |
| 2816 | A9 |
| 2817 | A10 |
| 2818 | A10 |
| 2819 | A10 |
| 2820 | A12 |
| 2821 | A12 |
| 2822 | A12 |
| 2823 | A10 |
| 2824 | A12 |
| 3800 | B3 |
| 3801-1 | C1 |
| 3801-2 | C1 |
| 3801-3 | C1 |
| 3801-4 | C1 |
| 3802-1 | C1 |
| 3802-2 | C1 |
| 3802-3 | C1 |
| 3802-4 | C1 |
| 3803-1 | D1 |
| 3803-2 | D1 |
| 3803-3 | C1 |
| 3803-4 | C1 |
| 3804-1 | D1 |
| 3804-2 | D1 |
| 3804-3 | D1 |
| 3804-4 | D1 |
| 3805-1 | D1 |
| 3805-2 | D1 |
| 3805-3 | D1 |
| 3805-4 | D1 |
| 3806-1 | D1 |
| 3806-2 | E1 |
| 3806-3 | E1 |
| 3806-4 | E1 |
| 3807-1 | E1 |
| 3807-2 | E1 |
| 3807-3 | E1 |
| 3807-4 | E1 |
| 3808-1 | E1 |
| 3808-2 | E1 |
| 3808-3 | E1 |
| 3808-4 | E1 |
| 3809-1 | B6 |
| 3809-2 | B6 |
| 3809-3 | B6 |
| 3809-4 | B6 |
| 3810-1 | B6 |
| 3810-2 | B6 |
| 3810-3 | B6 |
| 3810-4 | B6 |
| 3811-1 | C6 |
| 3811-2 | C6 |
| 3811-3 | C6 |
| 3811-4 | C6 |
| 3812-1 | C6 |
| 3812-2 | C6 |
| 3812-3 | C6 |
| 3812-4 | C6 |
| 3813-1 | C6 |
| 3813-2 | D6 |
| 3813-3 | D6 |
| 3813-4 | D6 |
| 3814 | D6 |
| 3815 | D6 |
| 3816 | D6 |
| 3817 | D6 |
| 3818 | E6 |
| 3819 | F2 |
| 3820 | F1 |
| 3822 | G5 |
| 3823 | F5 |
| 3824 | B12 |
| 3825-1 | F9 |
| 3825-2 | F9 |
| 3825-3 | F9 |
| 3825-4 | F9 |
| 3826-1 | F9 |
| 3826-2 | F9 |
| 3826-3 | F9 |
| 3826-4 | F9 |
| 3827 | F13 |
| 3828 | F13 |
| 3829 | F13 |
| 3830 | H10 |
| 3831 | I9 |
| 3832 | I9 |
| 3833 | I9 |
| 3834 | G13 |
| 3835 | G13 |
| 3836 | G13 |
| 3837 | G14 |
| 3838 | G14 |
| 3839 | G3 |
| 3840 | I3 |
| 3841 | H14 |
| 4801 | H5 |
| 7801-11 | A11 |
| 7801-12 | A4 |
| 7801-4 | C11 |
| 7801-5 | E11 |
| 7801-6 | F4 |
| 7801-9 | G11 |
| F800 | A1 |
| F801 | B3 |
| F802 | A9 |
| F803 | G14 |
| F804 | G14 |
| I800 | G2 |
| I801 | B12 |
| I802 | F10 |
| I803 | F10 |
| I804 | E12 |
| I805 | E12 |
| I806 | F12 |
| I807 | F12 |
| I808 | F12 |
| I809 | G12 |
| I810 | G12 |
| I811 | G14 |
| I812 | F3 |
| I813 | A1 |
| I815 | G3 |
| I816 | G2 |
| I817 | H5 |
| I818 | F3 |
| I819 | I10 |
| I820 | I10 |
| I821 | I10 |
| I822 | G12 |

## SSB: Scaler


B7
SCALER
7801-12 GM1501-LF-BD SYSTEM
7801-11 GM1501-LF-BD CLK-SYN
7801-4 GM1501-LF-BD OCM-ADR
7801-5 GM1501-LF-BD OCM_DATA
7801-6 GM1501-LF-BD VIDEO
7801-9 GM1501-LF-BD GPIO
+2V5_DDR
+1V8_CORE
+3V3_PLL
+3V3SW
+3V3_IO
B11 FROM SDRAM
B10 FROM SDRAM
B10 TO SDRAM
B11 TO FLASH / CONTROL
B9 TO SCALER INTRF
B11 TO FLASH CONTROL
B12 TO HDMI
B20 TO EPLD
B1 TO TUNER
B6 TO DC-DC CONVERTER
B19 TO COLUMBUS
B13 FROM MUX-SYNC INTF
B12 FROM HDMI
B3 FROM SYNC INTERFACE
B19 FROM COLUMBUS
B13 FROM MUX-SYNC INTF
B16
B22 FROM DIGITAL-IO (CINCH)
B20 TO EPLD
B23 RESERVED FROM ANALOG-IO (CINCH)
B14 TO DIGITAL-IO (SCART)
B15 / B23 TO ANALOG-IO (SCART) (CINCH)
B2 TO HERCULES
B13 TO MUX-SYNC INTF
B11 TO FLASH / CONTROL
B19 TO COLUMBUS
B3B-PH-SM4-TBT(LF) FOR SW TESTING (RES) 1802
3139 123 6093.1
F_15430_007.eps
140405

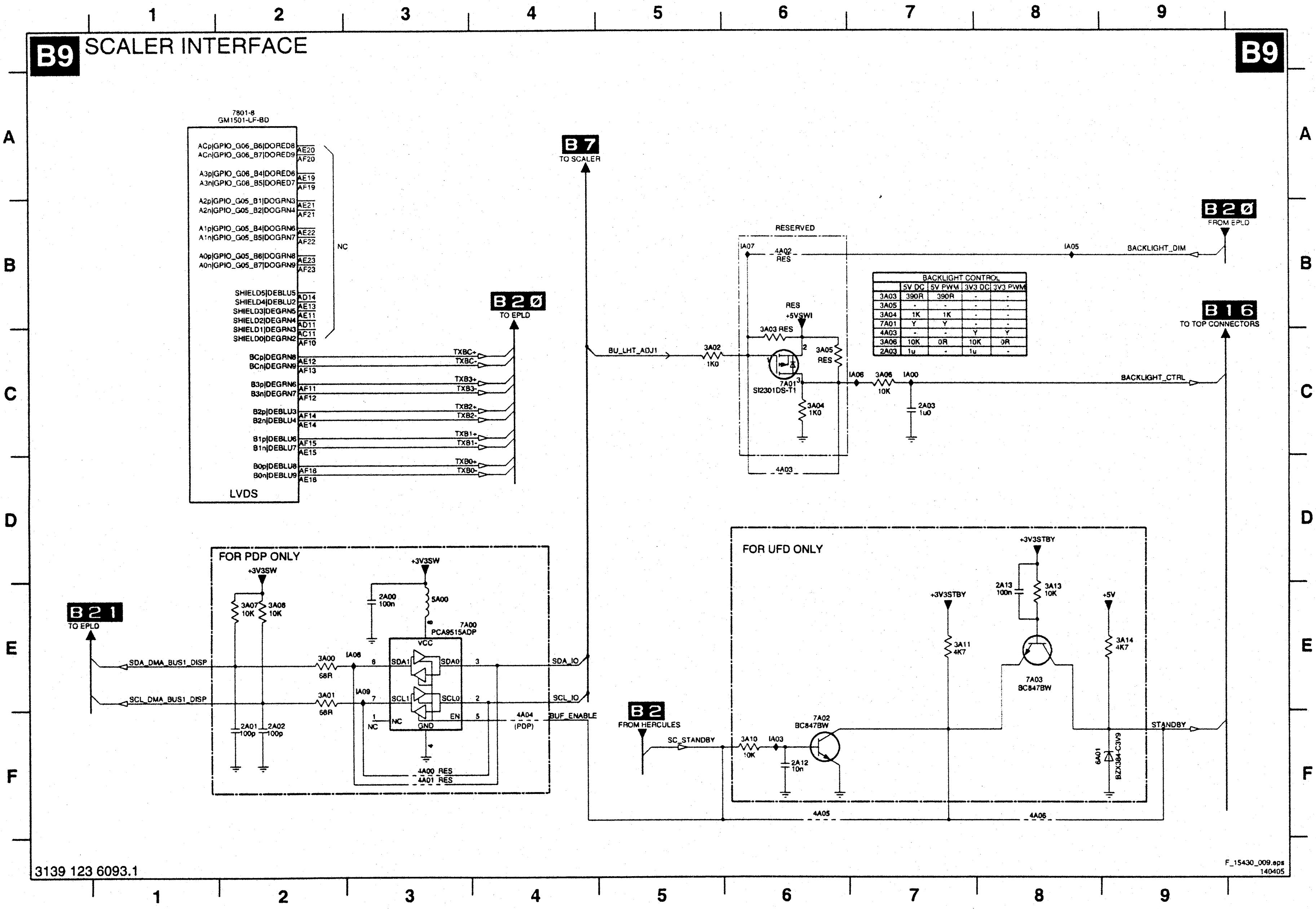
| | |
|---|---|
| 1801 | B12 |
| 1802 | G14 |
| 2800 | A1 |
| 2801 | A1 |
| 2802 | A1 |
| 2803 | A1 |
| 2804 | A2 |
| 2805 | A2 |
| 2806 | A2 |
| 2807 | A2 |
| 2808 | A2 |
| 2809 | A3 |
| 2810 | A3 |
| 2811 | A3 |
| 2812 | A3 |
| 2813 | B2 |
| 2814 | B3 |
| 2815 | A9 |
| 2816 | A9 |
| 2817 | A10 |
| 2818 | A10 |
| 2819 | A10 |
| 2820 | A12 |
| 2821 | A12 |
| 2822 | A12 |
| 2823 | A10 |
| 2824 | A12 |
| 3800 | B3 |
| 3801-1 | C1 |
| 3801-2 | C1 |
| 3801-3 | C1 |
| 3801-4 | C1 |
| 3802-1 | C1 |
| 3802-2 | C1 |
| 3802-3 | C1 |
| 3802-4 | C1 |
| 3803-1 | D1 |
| 3803-2 | D1 |
| 3803-3 | C1 |
| 3803-4 | C1 |
| 3804-1 | D1 |
| 3804-2 | D1 |
| 3804-3 | D1 |
| 3804-4 | D1 |
| 3805-1 | D1 |
| 3805-2 | D1 |
| 3805-3 | D1 |
| 3805-4 | D1 |
| 3806-1 | D1 |
| 3806-2 | E1 |
| 3806-3 | E1 |
| 3806-4 | E1 |
| 3807-1 | E1 |
| 3807-2 | E1 |
| 3807-3 | E1 |
| 3807-4 | E1 |
| 3808-1 | E1 |
| 3808-2 | E1 |
| 3808-3 | E1 |
| 3808-4 | E1 |
| 3809-1 | B6 |
| 3809-2 | B6 |
| 3809-3 | B6 |
| 3809-4 | B6 |
| 3810-1 | B6 |
| 3810-2 | B6 |
| 3810-3 | B6 |
| 3810-4 | B6 |
| 3811-1 | C6 |
| 3811-2 | C6 |
| 3811-3 | C6 |
| 3811-4 | C6 |
| 3812-1 | C6 |
| 3812-2 | C6 |
| 3812-3 | C6 |
| 3812-4 | C6 |
| 3813-1 | C6 |
| 3813-2 | D6 |
| 3813-3 | D6 |
| 3813-4 | D6 |
| 3814 | D6 |
| 3815 | D6 |
| 3816 | D6 |
| 3817 | D6 |
| 3818 | E6 |
| 3819 | F2 |
| 3820 | F1 |
| 3822 | G5 |
| 3823 | F5 |
| 3824 | B12 |
| 3825-1 | F9 |
| 3825-2 | F9 |
| 3825-3 | F9 |
| 3825-4 | F9 |
| 3826-1 | F9 |
| 3826-2 | F9 |
| 3826-3 | F9 |
| 3826-4 | F9 |
| 3827 | F13 |
| 3828 | F13 |
| 3829 | F13 |
| 3830 | H10 |
| 3831 | I9 |
| 3832 | I9 |
| 3833 | I9 |
| 3834 | G13 |
| 3835 | G13 |
| 3836 | G13 |
| 3837 | G14 |
| 3838 | G14 |
| 3839 | G3 |
| 3840 | I3 |
| 3841 | H14 |
| 4801 | H5 |
| 7801-11 | A11 |
| 7801-12 | A4 |
| 7801-4 | C11 |
| 7801-5 | E11 |
| 7801-6 | F4 |
| 7801-9 | G11 |
| F800 | A1 |
| F801 | B3 |
| F802 | A9 |
| F803 | G14 |
| F804 | G14 |
| I800 | G2 |
| I801 | B12 |
| I802 | F10 |
| I803 | F10 |
| I804 | E12 |
| I805 | E12 |
| I806 | F12 |
| I807 | F12 |
| I808 | F12 |
| I809 | G12 |
| I810 | G12 |
| I811 | G14 |
| I812 | F3 |
| I813 | A1 |
| I815 | G3 |
| I816 | G2 |
| I817 | H5 |
| I818 | F3 |
| I819 | I10 |
| I820 | I10 |
| I821 | I10 |
| I822 | G12 |

## SSB: Scaler Supply


B8
SCALER
SUPPLY FOR SCALER
+3V3SW
5900 +3V3_PLL
5901 +3V3_ADC
5902 +3V3_DVI
5903 +3V3_IO
5904 F900 +3V3_LBADC
5905 +3V3_LVDSA
5906 +3V3_LVDSB
5907 +3V3_LVDS
7900 LF25CDT
IN OUT COM
5908 +2V5_DDR
2900 100n
2901 1n0
2902 470u 16V
7901 LD1086D2T18
I901
5909 +1V8_ADC
5910 +1V8_DVI
5911 +1V8_CORE
2903 100n
2904 47u 16V
+3V3_IO
F901
+1V8_CORE
F902
7801-13 GM1501-LF-BD
SUPPLY
IO_3.3
CORE_1.8
D_GND
I905
7801-14 GM1501-LF-BD
NC
+3V3_LBADC
2940 47u 16V
2941 100n
7801-3 GM1501-LF-BD
ADC
LBADC_IN1
LBADC_IN2
LBADC_IN3
LBADC_RETURN
LBADC_GND
B2
KEYBOARD
4900 RES
(RES)
2942 100n
+1V8_DVI
+3V3_DVI
F903
F904
B14
TO DIGITAL-IO (SCART ONLY)
7801-2 GM1501-LF-BD
DVI
DVI_1.8
DVI_3.3
SCL_DVI
SDA_DVI
RXC+IN
RXC-IN
RX0+IN
RX0-IN
RX1+IN
RX1-IN
RX2+IN
RX2-IN
DVI_SCL|GPI_07
DVI_SDA|GPI_08
RXCp
RXCn
RX0p
RX0n
RX1p
RX1n
RX2p
RX2n
REXT
DVI_GND
I906
7801-10 GM1501-LF-BD
DISPLAY PWR
LVDSA_GND_1
LVDSA_GND_2
LVDSA_GND_3
LVDSB_GND_1
LVDSB_GND_2
LVDSB_GND_3
VSSD33_LVDS
VDDD33_LVDS
LVDSA_3.3_3
LVDSA_3.3_2
LVDSA_3.3_1
LVDSB_3.3_3
LVDSB_3.3_2
LVDSB_3.3_1
+3V3_LVDS
F905
+3V3_LVDSA
F906
+3V3_LVDSB
F907
2945 22u 16V
2950 22u 16V
B13
TO MUX-SYNC INTERFACE
B18
ADC
B19
TO COLUMBUS
&
B2
HERCULES
+3V3STBY
3901 RES
3902 RES
+1V8_ADC
+3V3_ADC
F908
F909
2955 22u 16V
7801-1 GM1501-LF-BD
ANA-IN
ADC_1.8
ADC_3.3
AVSYNC
AHSYNC
SCL
SDA
3903 100R
3904 100R
VGA_SCL|GPI_05
VGA_SDA|GPI_06
SOG
R_PR+
R_PR-
REDp
REDn
G_Y+
G_Y-
GREENp
GREENn
B_PB+
B_PB-
BLUEp
BLUEn
ADC_AGND
ADC_DGND
F910
B16
7801-7 GM1501-LF-BD
CTRL
3900 3K3
I904
OEXTR
FAN_SPEED
PWM0|GPIO_10
HD_FILTER
PWM1|GPIO_11
PPWR|GPIO_08
PBIAS|GPIO_09
DCLK|GPIO_17
PWM2|GPIO_12
NC
I903
PANEL-PWR-CTL
LAMP_ON_OFF
BU_LHT_ADJ2
(RES)
FROM DC-DC CONVERTER
B6
B16
TO TOP CONN.
3139 123 6093.1
F_15430_008.eps
150405

| | |
|---|---|
| 2900 | D1 |
| 2901 | D2 |
| 2902 | D2 |
| 2903 | E1 |
| 2904 | E2 |
| 2905 | A4 |
| 2906 | A4 |
| 2907 | A4 |
| 2908 | A4 |
| 2909 | A4 |
| 2910 | A5 |
| 2911 | A5 |
| 2912 | A5 |
| 2913 | A5 |
| 2914 | A6 |
| 2915 | A6 |
| 2916 | A6 |
| 2917 | A7 |
| 2918 | A7 |
| 2919 | A7 |
| 2920 | A7 |
| 2921 | A7 |
| 2922 | A8 |
| 2923 | A8 |
| 2924 | A8 |
| 2925 | A8 |
| 2926 | A9 |
| 2927 | A9 |
| 2928 | A9 |
| 2929 | A9 |
| 2930 | C5 |
| 2931 | C5 |
| 2932 | C5 |
| 2933 | C5 |
| 2934 | C7 |
| 2935 | C7 |
| 2936 | C7 |
| 2937 | C8 |
| 2938 | C8 |
| 2939 | C8 |
| 2940 | B9 |
| 2941 | B10 |
| 2942 | C9 |
| 2945 | D10 |
| 2946 | D11 |
| 2947 | D11 |
| 2948 | D11 |
| 2949 | D11 |
| 2950 | D10 |
| 2951 | D11 |
| 2952 | D11 |
| 2953 | E8 |
| 2954 | E8 |
| 2955 | E10 |
| 2956 | E10 |
| 2957 | E10 |
| 2958 | E11 |
| 2959 | E11 |
| 3900 | F4 |
| 3901 | E8 |
| 3902 | E8 |
| 3903 | F8 |
| 3904 | F8 |
| 4900 | B9 |
| 5900 | A1 |
| 5901 | B1 |
| 5902 | B1 |
| 5903 | B1 |
| 5904 | B1 |
| 5905 | C1 |
| 5906 | C1 |
| 5907 | C1 |
| 5908 | C2 |
| 5909 | D2 |
| 5910 | E2 |
| 5911 | E2 |
| 7801-1 | F9 |
| 7801-10 | C9 |
| 7801-13 | B6 |
| 7801-14 | A10 |
| 7801-2 | C8 |
| 7801-3 | B10 |
| 7801-7 | F5 |
| 7900 | C1 |
| 7901 | D1 |
| F900 | B2 |
| F901 | A4 |
| F902 | A7 |
| F903 | C5 |
| F904 | C7 |
| F905 | D10 |
| F906 | D10 |
| F907 | D10 |
| F908 | E9 |
| F909 | E10 |
| F910 | G9 |
| I900 | C2 |
| I901 | E1 |
| I902 | E2 |
| I903 | G6 |
| I904 | F4 |
| I905 | C4 |
| I906 | E6 |

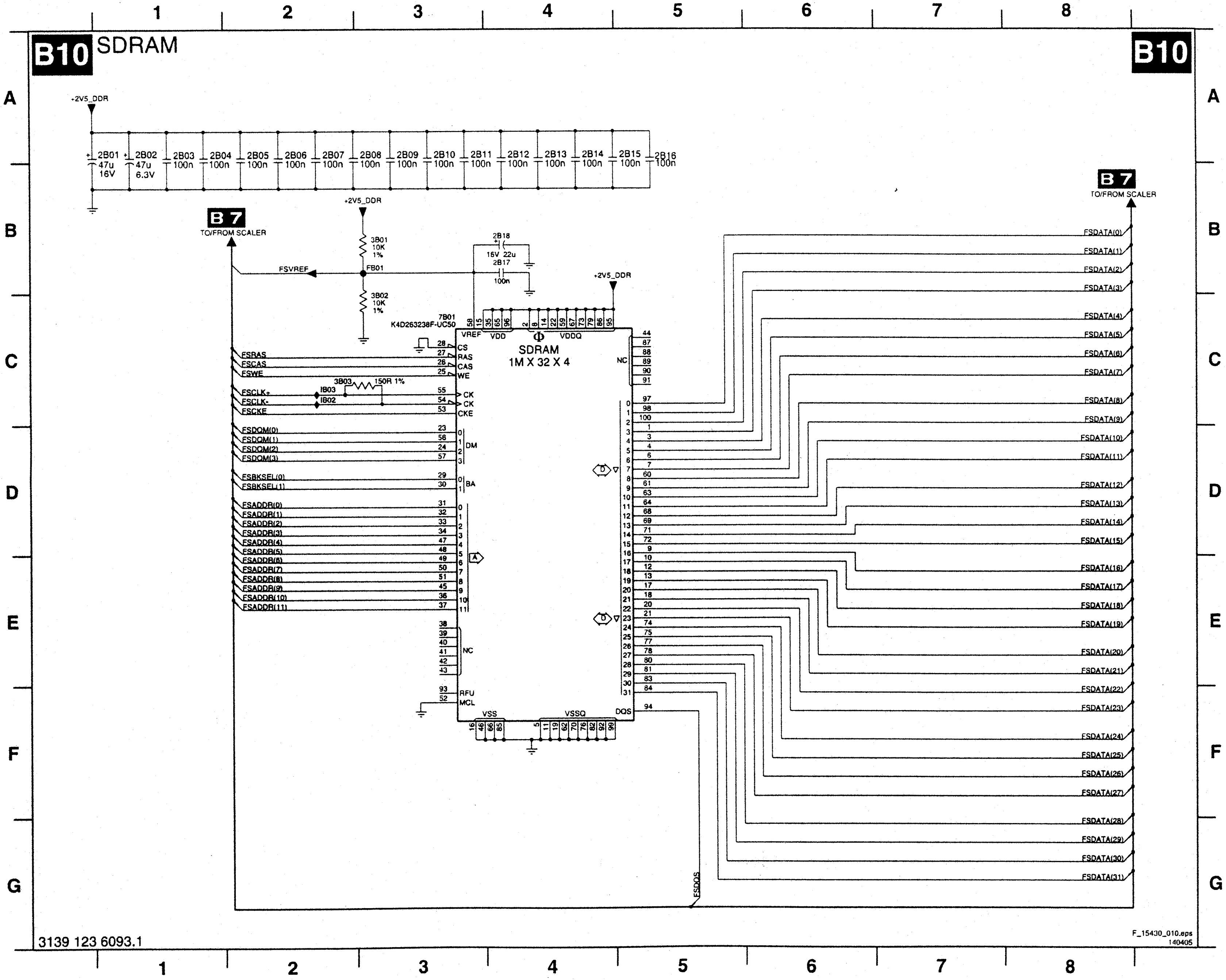
## SSB: Scaler Interface


B9
SCALER INTERFACE
7801-8
GM1501-LF-BD
ACp|GPIO_G06_B6|DORED8 AE20
ACn|GPIO_G06_B7|DORED9 AF20
A3p|GPIO_G08_B4|DORED6 AE19
A3n|GPIO_G08_B5|DORED7 AF19
A2p|GPIO_G05_B1|DOGRN3 AE21
A2n|GPIO_G05_B2|DOGRN4 AF21
A1p|GPIO_G05_B4|DOGRN6 AE22
A1n|GPIO_G05_B5|DOGRN7 AF22
A0p|GPIO_G05_B6|DOGRN8 AE23
A0n|GPIO_G05_B7|DOGRN9 AF23
SHIELD5|DEBLU5 AD14
SHIELD4|DEBLU2 AE13
SHIELD3|DEGRN5 AE11
SHIELD2|DEGRN4 AD11
SHIELD1|DEGRN3 AC11
SHIELD0|DEGRN2 AF10
NC
BCp|DEGRN8 AE12
BCn|DEGRN9 AF13
B3p|DEGRN6 AF11
B3n|DEGRN7 AF12
B2p|DEBLU3 AF14
B2n|DEBLU4 AE14
B1p|DEBLU6 AF15
B1n|DEBLU7 AE15
B0p|DEBLU8 AF16
B0n|DEBLU9 AE16
LVDS
TXBC+
TXBC-
TXB3+
TXB3-
TXB2+
TXB2-
TXB1+
TXB1-
TXB0+
TXB0-
B20 TO EPLD
B7 TO SCALER
BU_LHT_ADJ1
3A02 1K0
RESERVED
IA07
4A02 RES
IA05
BACKLIGHT_DIM
B20 FROM EPLD
RES
+5VSWI
3A03 RES
3A05 RES
7A01 SI2301DS-T1
3A04 1K0
IA06
3A06 10K
IA00
2A03 1u0
4A03
BACKLIGHT_CTRL
B16 TO TOP CONNECTORS
FOR PDP ONLY
+3V3SW
3A07 10K
3A08 10K
2A00 100n
5A00
7A00 PCA9515ADP
VCC
SDA1
SDA0
SCL1
SCL0
NC
EN
GND
B21 TO EPLD
SDA_DMA_BUS1_DISP
SCL_DMA_BUS1_DISP
3A00 68R
3A01 68R
IA08
IA09
2A01 100p
2A02 100p
4A04 (PDP)
4A00 RES
4A01 RES
SDA_IO
SCL_IO
BUF_ENABLE
B2 FROM HERCULES
SC_STANDBY
FOR UFD ONLY
+3V3STBY
2A13 100n
3A13 10K
3A11 4K7
+5V
3A14 4K7
7A03 BC847BW
7A02 BC847BW
3A10 10K
IA03
2A12 10n
6A01 BZX384-C3V9
STANDBY
4A05
4A06
3139 123 6093.1
F_15430_009.eps 140405
1 2 3 4 5 6 7 8 9
A B C D E F

| BACKLIGHT CONTROL | | | | |
|---|---|---|---|---|
| | 5V DC | 5V PWM | 3V3 DC | 3V3 PWM |
| 3A03 | 390R | 390R | - | - |
| 3A05 | - | - | - | - |
| 3A04 | 1K | 1K | - | - |
| 7A01 | Y | Y | - | - |
| 4A03 | - | - | Y | Y |
| 3A06 | 10K | 0R | 10K | 0R |
| 2A03 | 1u | - | 1u | - |

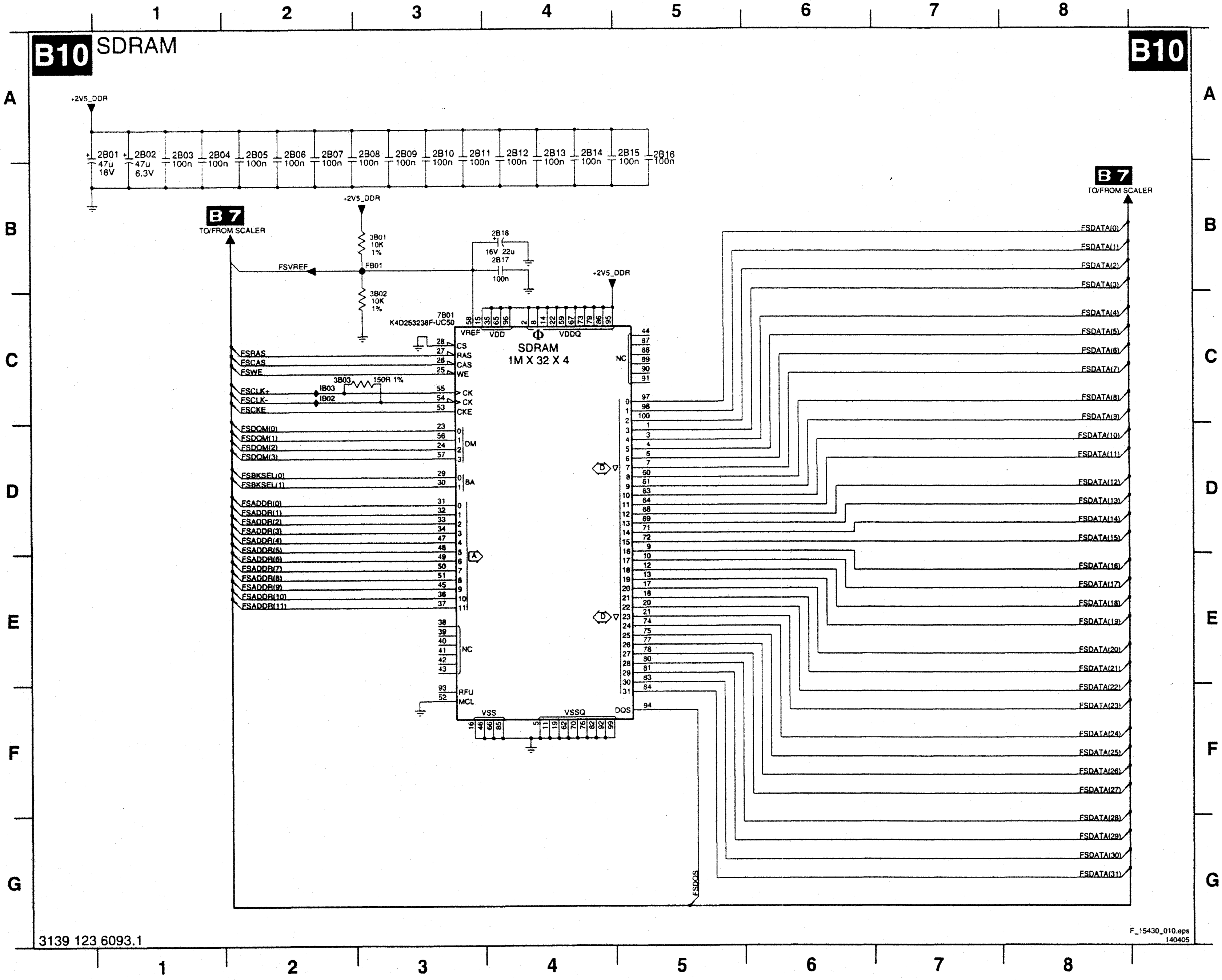
| | |
|---|---|
| 2A00 | E3 |
| 2A01 | F2 |
| 2A02 | F2 |
| 2A03 | C7 |
| 2A12 | F6 |
| 2A13 | E8 |
| 3A00 | E2 |
| 3A01 | E2 |
| 3A02 | C5 |
| 3A03 | C6 |
| 3A04 | C6 |
| 3A05 | C6 |
| 3A06 | C7 |
| 3A07 | E2 |
| 3A08 | E2 |
| 3A10 | F6 |
| 3A11 | E7 |
| 3A13 | E8 |
| 3A14 | E9 |
| 4A00 | F3 |
| 4A01 | F3 |
| 4A02 | B6 |
| 4A03 | D6 |
| 4A04 | F4 |
| 4A05 | F6 |
| 4A06 | F8 |
| 5A00 | E3 |
| 6A01 | F8 |
| 7801-8 | A2 |
| 7A00 | E4 |
| 7A01 | C6 |
| 7A02 | F6 |
| 7A03 | E8 |
| IA00 | C7 |
| IA03 | F6 |
| IA05 | B8 |
| IA06 | C7 |
| IA07 | B6 |
| IA08 | E3 |
| IA09 | E3 |

## SSB: SDRAM


B10 SDRAM
B10
1 2 3 4 5 6 7 8
A B C D E F G
+2V5_DDR
2B01 47u 16V
2B02 47u 6.3V
2B03 100n
2B04 100n
2B05 100n
2B06 100n
2B07 100n
2B08 100n
2B09 100n
2B10 100n
2B11 100n
2B12 100n
2B13 100n
2B14 100n
2B15 100n
2B16 100n
B 7 TO/FROM SCALER
3B01 10K 1%
FB01
FSVREF
3B02 10K 1%
2B18 16V 22u
2B17 100n
7B01 K4D263238F-UC50
SDRAM 1M X 32 X 4
VREF VDD VDDQ
CS RAS CAS WE CK CK CKE
FSRAS
FSCAS
FSWE
3B03 150R 1%
IB03
IB02
FSCLK+
FSCLK-
FSCKE
FSDQM(0)
FSDQM(1)
FSDQM(2)
FSDQM(3)
DM
FSBKSEL(0)
FSBKSEL(1)
BA
FSADDR(0)
FSADDR(1)
FSADDR(2)
FSADDR(3)
FSADDR(4)
FSADDR(5)
FSADDR(6)
FSADDR(7)
FSADDR(8)
FSADDR(9)
FSADDR(10)
FSADDR(11)
A
NC
RFU
MCL
VSS VSSQ DQS
D
FSDATA(0)
FSDATA(1)
FSDATA(2)
FSDATA(3)
FSDATA(4)
FSDATA(5)
FSDATA(6)
FSDATA(7)
FSDATA(8)
FSDATA(9)
FSDATA(10)
FSDATA(11)
FSDATA(12)
FSDATA(13)
FSDATA(14)
FSDATA(15)
FSDATA(16)
FSDATA(17)
FSDATA(18)
FSDATA(19)
FSDATA(20)
FSDATA(21)
FSDATA(22)
FSDATA(23)
FSDATA(24)
FSDATA(25)
FSDATA(26)
FSDATA(27)
FSDATA(28)
FSDATA(29)
FSDATA(30)
FSDATA(31)
FSDQS
3139 123 6093.1
F_15430_010.eps 140405

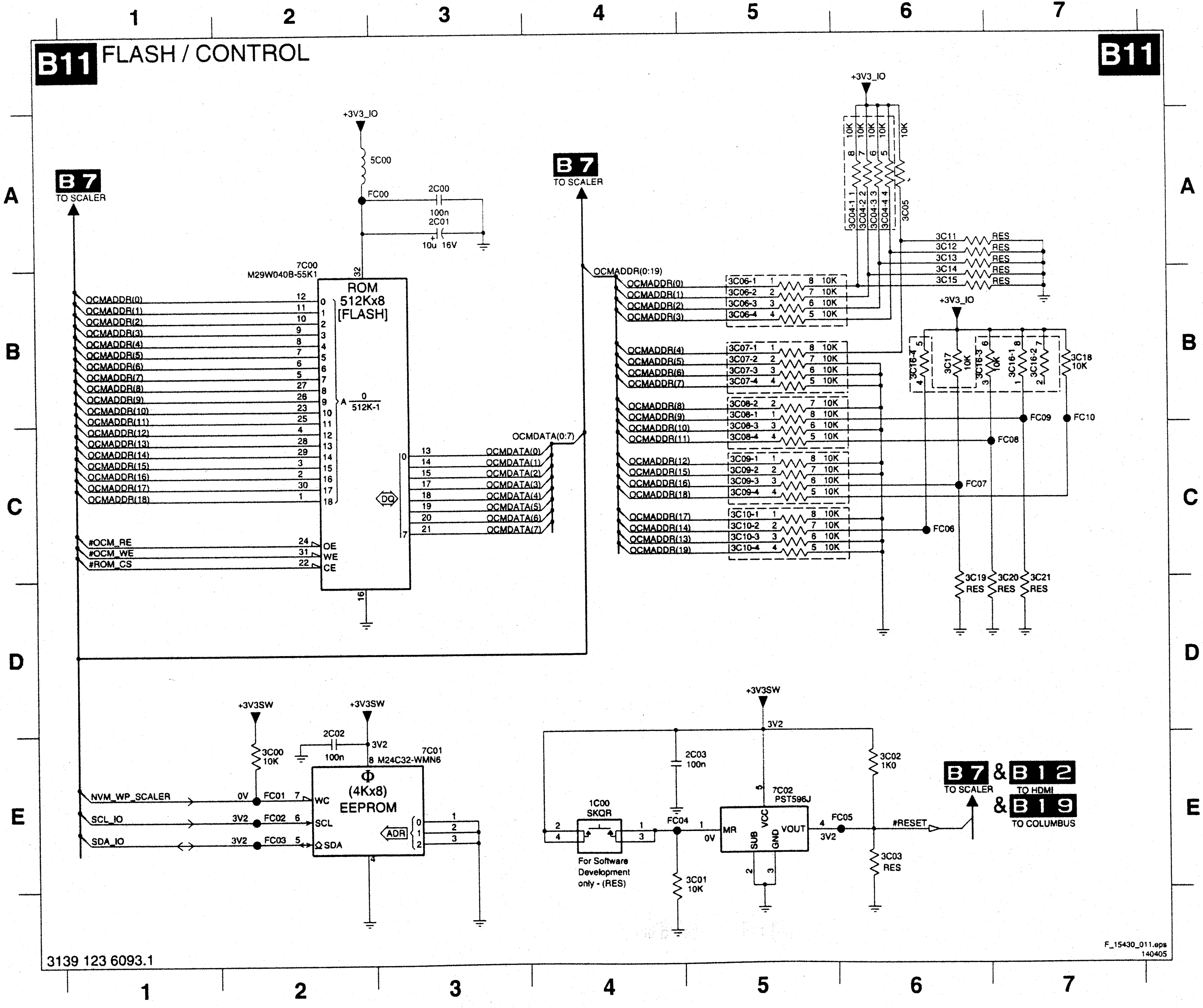
| | |
|---|---|
| 2B01 | A1 |
| 2B02 | A1 |
| 2B03 | A1 |
| 2B04 | A1 |
| 2B05 | A2 |
| 2B06 | A2 |
| 2B07 | A2 |
| 2B08 | A3 |
| 2B09 | A3 |
| 2B10 | A3 |
| 2B11 | A3 |
| 2B12 | A4 |
| 2B13 | A4 |
| 2B14 | A4 |
| 2B15 | A5 |
| 2B16 | A5 |
| 2B17 | B4 |
| 2B18 | B4 |
| 3B01 | B3 |
| 3B02 | B3 |
| 3B03 | C2 |
| 7B01 | C3 |
| FB01 | B3 |
| IB02 | C2 |
| IB03 | C2 |

## SSB: SDRAM


B10
SDRAM
B10
1
2
3
4
5
6
7
8
A
B
C
D
E
F
G
+2V5_DDR
2B01 47u 16V
2B02 47u 6.3V
2B03 100n
2B04 100n
2B05 100n
2B06 100n
2B07 100n
2B08 100n
2B09 100n
2B10 100n
2B11 100n
2B12 100n
2B13 100n
2B14 100n
2B15 100n
2B16 100n
B 7
TO/FROM SCALER
3B01 10K 1%
FB01
3B02 10K 1%
FSVREF
2B18 16V 22u
2B17 100n
7B01
K4D263238F-UC50
SDRAM
1M X 32 X 4
VREF
VDD
VDDQ
NC
CS
RAS
CAS
WE
CK
CK
CKE
DM
BA
RFU
MCL
VSS
VSSQ
DQS
FSRAS
FSCAS
FSWE
FSCLK+
FSCLK-
FSCKE
3B03 150R 1%
IB03
IB02
FSDQM(0)
FSDQM(1)
FSDQM(2)
FSDQM(3)
FSBKSEL(0)
FSBKSEL(1)
FSADDR(0)
FSADDR(1)
FSADDR(2)
FSADDR(3)
FSADDR(4)
FSADDR(5)
FSADDR(6)
FSADDR(7)
FSADDR(8)
FSADDR(9)
FSADDR(10)
FSADDR(11)
FSDATA(0)
FSDATA(1)
FSDATA(2)
FSDATA(3)
FSDATA(4)
FSDATA(5)
FSDATA(6)
FSDATA(7)
FSDATA(8)
FSDATA(9)
FSDATA(10)
FSDATA(11)
FSDATA(12)
FSDATA(13)
FSDATA(14)
FSDATA(15)
FSDATA(16)
FSDATA(17)
FSDATA(18)
FSDATA(19)
FSDATA(20)
FSDATA(21)
FSDATA(22)
FSDATA(23)
FSDATA(24)
FSDATA(25)
FSDATA(26)
FSDATA(27)
FSDATA(28)
FSDATA(29)
FSDATA(30)
FSDATA(31)
FSDQS
3139 123 6093.1
F_15430_010.eps
140405

| | |
|---|---|
| 2B01 | A1 |
| 2B02 | A1 |
| 2B03 | A1 |
| 2B04 | A1 |
| 2B05 | A2 |
| 2B06 | A2 |
| 2B07 | A2 |
| 2B08 | A3 |
| 2B09 | A3 |
| 2B10 | A3 |
| 2B11 | A3 |
| 2B12 | A4 |
| 2B13 | A4 |
| 2B14 | A4 |
| 2B15 | A5 |
| 2B16 | A5 |
| 2B17 | B4 |
| 2B18 | B4 |
| 3B01 | B3 |
| 3B02 | B3 |
| 3B03 | C2 |
| 7B01 | C3 |
| FB01 | B3 |
| IB02 | C2 |
| IB03 | C2 |

## SSB: Flash / Control

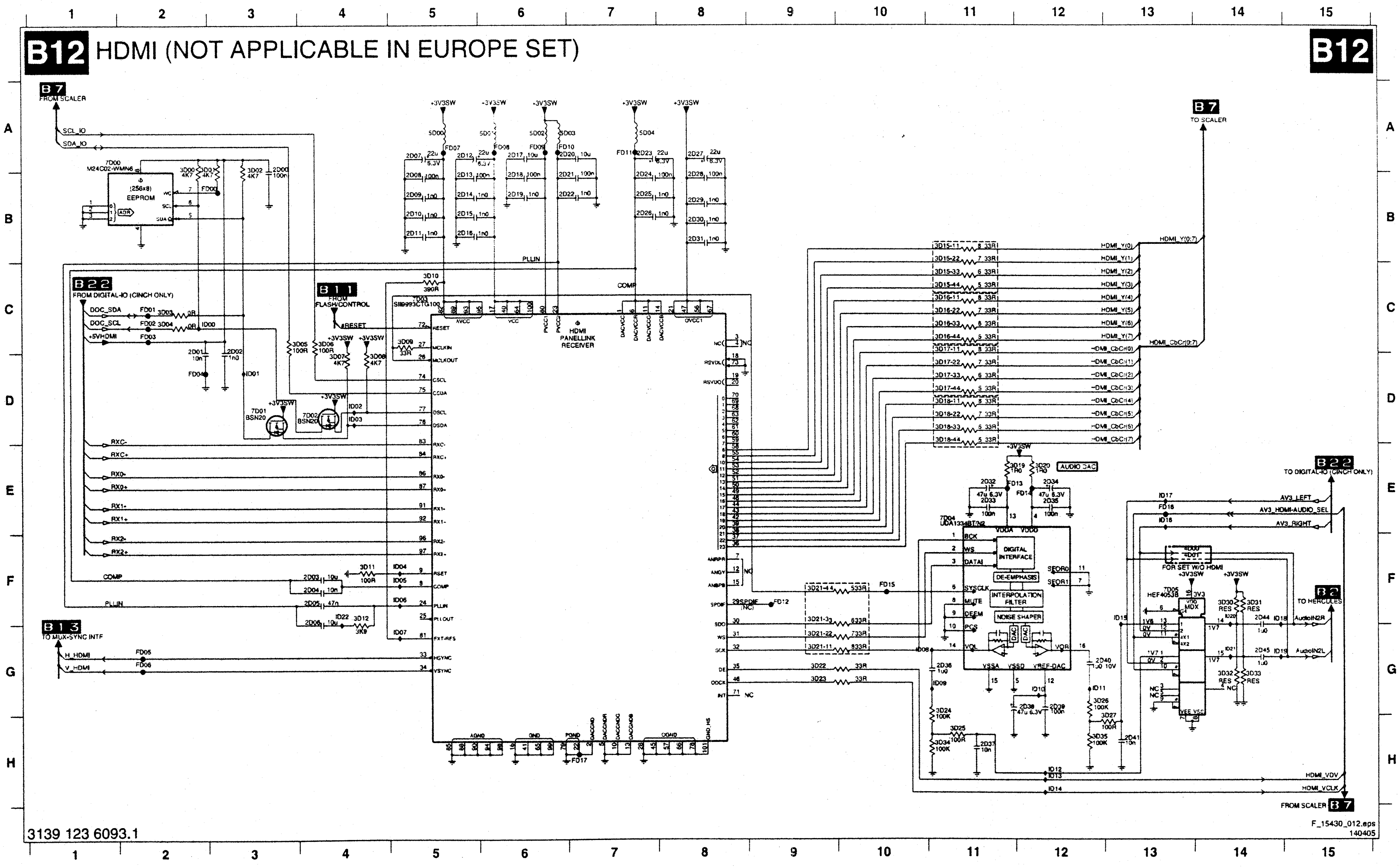

B11 FLASH / CONTROL
B11
B7 TO SCALER
+3V3_IO
5C00
FC00
2C00 100n
2C01 10u 16V
7C00 M29W040B-55K1
ROM 512Kx8 [FLASH]
OCMADDR(0) … OCMADDR(18)
OCMDATA(0:7)
OCMDATA(0) … OCMDATA(7)
OCMADDR(0:19)
#OCM_RE
#OCM_WE
#ROM_CS
OE
WE
CE
3C04-1 3C04-2 3C04-3 3C04-4 3C05 10K
3C06-1 3C06-2 3C06-3 3C06-4 10K
3C07-1 3C07-2 3C07-3 3C07-4 10K
3C08-1 3C08-2 3C08-3 3C08-4 10K
3C09-1 3C09-2 3C09-3 3C09-4 10K
3C10-1 3C10-2 3C10-3 3C10-4 10K
3C11 3C12 3C13 3C14 3C15 RES
3C16-1 3C16-2 3C16-3 3C16-4 3C17 3C18 10K
3C19 3C20 3C21 RES
FC06 FC07 FC08 FC09 FC10
+3V3SW
NVM_WP_SCALER
SCL_IO
SDA_IO
3C00 10K
FC01 FC02 FC03
2C02 100n
7C01 M24C32-WMN6
(4Kx8) EEPROM
WC SCL SDA ADR
3V2
0V
2C03 100n
1C00 SKQR
For Software Development only - (RES)
FC04
3C01 10K
7C02 PST596J
MR VCC VOUT SUB GND
FC05
3C02 1K0
3C03 RES
#RESET
B7 & B12 TO SCALER TO HDMI
& B19 TO COLUMBUS
3139 123 6093.1
F_15430_011.eps 140405
1 2 3 4 5 6 7
A B C D E

| | |
|---|---|
| 1C00 | E4 |
| 2C00 | A3 |
| 2C01 | A3 |
| 2C02 | E2 |
| 2C03 | E5 |
| 3C00 | E2 |
| 3C01 | E5 |
| 3C02 | E6 |
| 3C03 | E6 |
| 3C04-1 | A6 |
| 3C04-2 | A6 |
| 3C04-3 | A6 |
| 3C04-4 | A6 |
| 3C05 | A6 |
| 3C06-1 | B5 |
| 3C06-2 | B5 |
| 3C06-3 | B5 |
| 3C06-4 | B5 |
| 3C07-1 | B5 |
| 3C07-2 | B5 |
| 3C07-3 | B5 |
| 3C07-4 | B5 |
| 3C08-1 | B5 |
| 3C08-2 | B5 |
| 3C08-3 | C5 |
| 3C08-4 | C5 |
| 3C09-1 | C5 |
| 3C09-2 | C5 |
| 3C09-3 | C5 |
| 3C09-4 | C5 |
| 3C10-1 | C5 |
| 3C10-2 | C5 |
| 3C10-3 | C5 |
| 3C10-4 | C5 |
| 3C11 | A6 |
| 3C12 | A6 |
| 3C13 | A6 |
| 3C14 | B6 |
| 3C15 | B6 |
| 3C16-1 | B7 |
| 3C16-2 | B7 |
| 3C16-3 | B6 |
| 3C16-4 | B6 |
| 3C17 | B6 |
| 3C18 | B7 |
| 3C19 | C6 |
| 3C20 | C7 |
| 3C21 | C7 |
| 5C00 | A3 |
| 7C00 | A2 |
| 7C01 | E3 |
| 7C02 | E5 |
| FC00 | A3 |
| FC01 | E2 |
| FC02 | E2 |
| FC03 | E2 |
| FC04 | E4 |
| FC05 | E6 |
| FC06 | C6 |
| FC07 | C6 |
| FC08 | C7 |
| FC09 | B7 |
| FC10 | B7 |

## SSB: HDMI (N.A.)

2D00 A3
2D01 C2
2D02 C3
2D03 F4
2D04 F4
2D05 F4
2D06 F4
2D07 A5
2D08 B5
2D09 B5
2D10 B5
2D11 B5
2D12 A5
2D13 B6
2D14 B5
2D15 B5
2D16 B5
2D17 A6
2D18 B6
2D19 B6
2D20 A7
2D21 B6
2D22 B6
2D23 A7
2D24 B7
2D25 B7
2D26 B7
2D27 A8
2D28 B8
2D29 B8
2D30 B8
2D31 B8
2D32 E11
2D33 E11
2D34 E12
2D35 E12
2D36 G11
2D37 H11
2D38 G12
2D39 G12
2D40 G12
2D41 H13
2D44 F14
2D45 G14
3D00 A2
3D01 A3
3D02 A3
3D03 C2
3D04 C2
3D05 C4
3D06 C4
3D07 D4
3D08 D4
3D09 C5
3D10 C5
3D11 F4
3D12 F4
3D15-1 B11
3D15-2 B11
3D15-3 C11
3D15-4 C11
3D16-1 C11
3D16-2 C11
3D16-3 C11
3D16-4 C11
3D17-1 C11
3D17-2 D11
3D17-3 D11
3D17-4 D11
3D18-1 D11
3D18-2 D11
3D18-3 D11
3D18-4 D11
3D19 E12
3D20 E12
3D21-1 G9
3D21-2 G9
3D21-3 F9
3D21-4 F9
3D22 G9
3D23 G9
3D24 G11
3D25 H11
3D26 G12
3D27 H13
3D30 F14
3D31 F14
3D32 G14
3D33 G14
3D34 H11
3D35 H12
4D00 F13
4D01 F13
5D00 A5
5D01 A6
5D02 A6
5D03 A7
5D04 A7
7D00 A2
7D01 D3
7D02 D4
7D03 C5
7D04 E11
7D05 F13
FD00 B3
FD01 C2
FD02 C2
FD03 C2
FD04 D2
FD05 G2
FD06 G2
FD07 A5
FD08 A6
FD09 A6
FD10 A6
FD11 A7
FD12 F9
FD13 E11
FD14 E12
FD15 F10
FD16 E13
FD17 H7
ID00 C3
ID01 D3
ID02 D4
ID03 D4
ID04 F5
ID05 F5
ID06 F5
ID07 G5
ID08 G10
ID09 G11
ID10 G12
ID11 G12
ID12 H12
ID13 H12
ID14 H12
ID15 F13
ID16 E13
ID17 E13
ID18 F14
ID19 G14
ID20 F14
ID21 G14
ID22 F4

# B12 HDMI (NOT APPLICABLE IN EUROPE SET)


B12
B7 FROM SCALER
SCL_IO
SDA_IO
7D00 M24C02-WMN6
(256x8) EEPROM
ADR
WC
SCL
SDA
B22 FROM DIGITAL-IO (CINCH ONLY)
DDC_SDA
DDC_SCL
+5VHDMI
B11 FROM FLASH/CONTROL
RESET
7D01 BSN20
7D02 BSN20
+3V3SW
PLLIN
COMP
7D03 SII9993CTG100
HDMI PANELLINK RECEIVER
AVCC
VCC
PVCC1
PVCC2
DACVCC
OVCC1
RXC-
RXC+
RX0-
RX0+
RX1-
RX1+
RX2-
RX2+
MCLKIN
MCLKOUT
CSCL
CSDA
DSCL
DSDA
PLLOUT
EXT-RES
HSYNC
VSYNC
SPDIF
SDO
WS
SCK
DE
ODCK
INT
AGND
GND
PGND
DACGND
OGND
B13 TO MUX+SYNC INTF
H_HDMI
V_HDMI
B7 TO SCALER
HDMI_Y(0:7)
HDMI_CbCr(0:7)
HDMI_Y(0) ... HDMI_Y(7)
HDMI_CbCr(0) ... HDMI_CbCr(7)
AUDIO DAC
7D04 UDA1334BT/N2
DIGITAL INTERFACE
DE-EMPHASIS
INTERPOLATION FILTER
NOISE SHAPER
DAC
BCK
WS
DATAI
SYSCLK
MUTE
DEEM
PCS
VOL
VOR
SFOR0
SFOR1
VDDA
VDDD
VSSA
VSSD
VREF-DAC
B22 TO DIGITAL-IO (CINCH ONLY)
AV3_LEFT
AV3_HDMI-AUDIO_SEL
AV3_RIGHT
4D00 4D01
FOR SET W/O HDMI
7D05 HEF4053B
MDX
B2 TO HERCULES
AudioIN2R
AudioIN2L
HDMI_VDV
HDMI_VCLK
FROM SCALER B7

3139 123 6093.1

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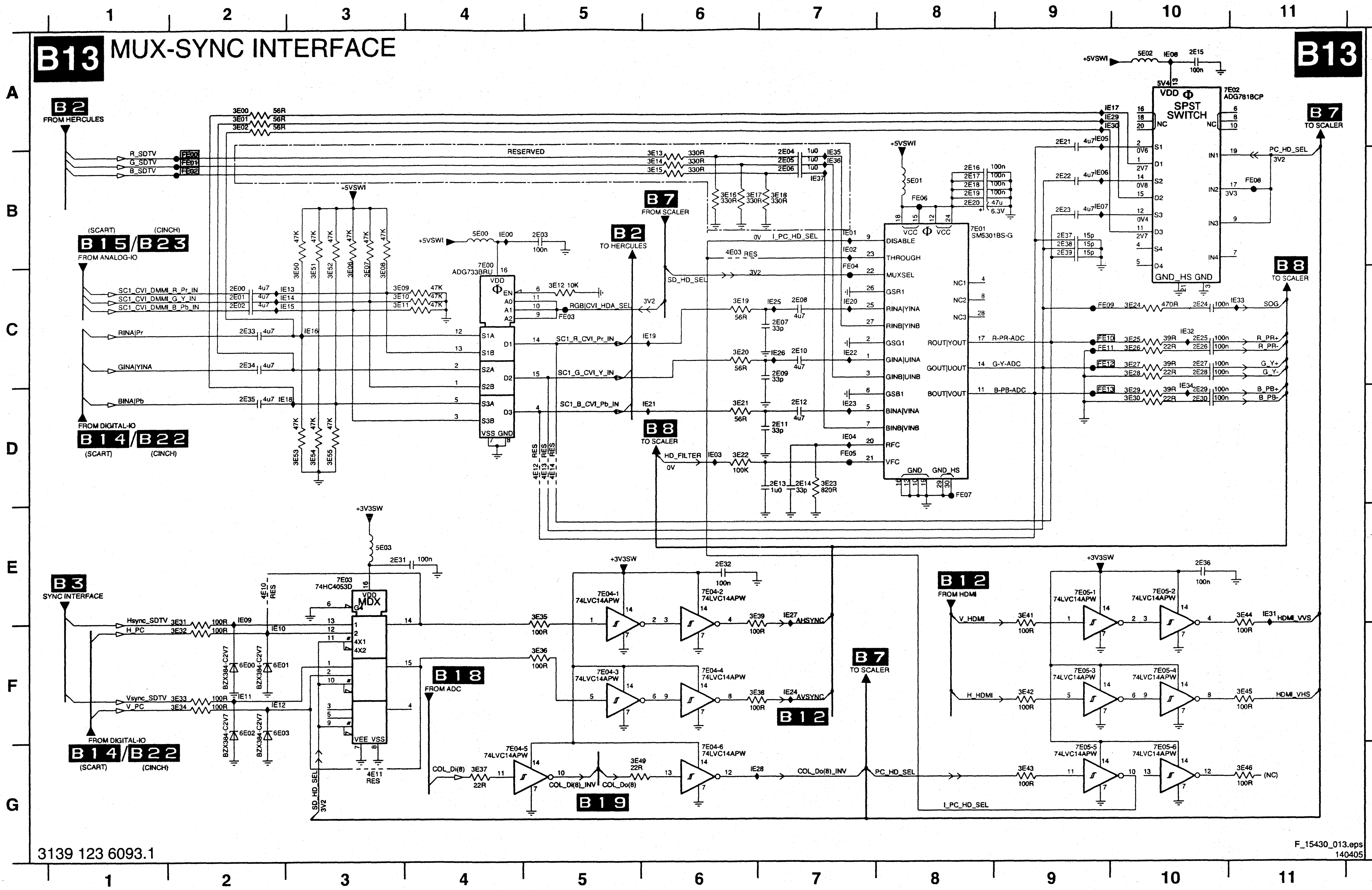
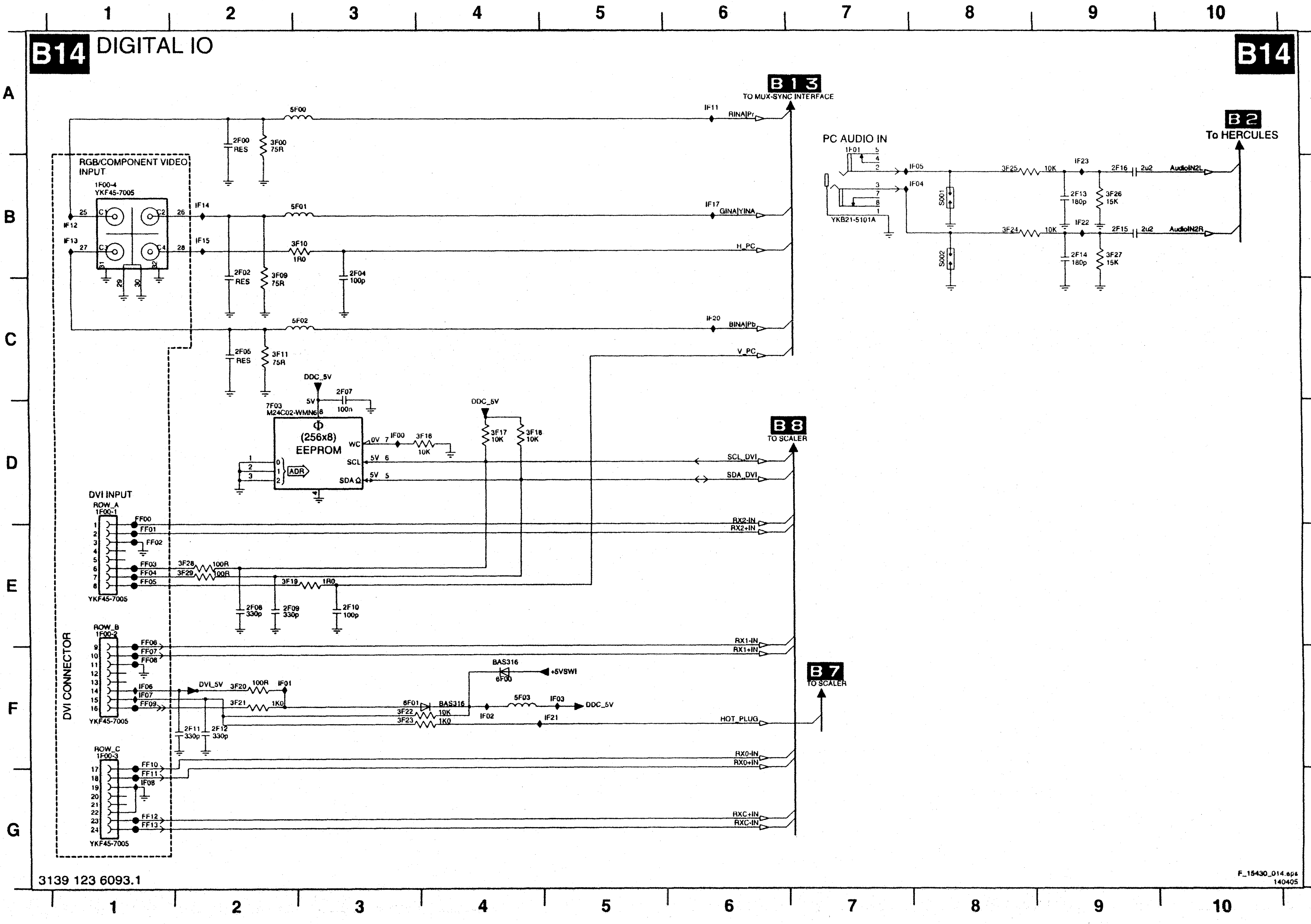
140405

## SSB: MUX Sync Interface


B13
MUX-SYNC INTERFACE
B2 FROM HERCULES
R_SDTV
G_SDTV
B_SDTV
RESERVED
B15/B23 FROM ANALOG-IO (SCART) (CINCH)
SC1_CVI_DMMI_R_Pr_IN
SC1_CVI_DMMI_G_Y_IN
SC1_CVI_DMMI_B_Pb_IN
RINA|Pr
GINA|YINA
BINA|Pb
B14/B22 FROM DIGITAL-IO (SCART) (CINCH)
7E00 ADG733BRU
7E01 SM5301BS-G
7E02 ADG781BCP SPST SWITCH
7E03 74HC4053D MDX
7E04 74LVC14APW
7E05 74LVC14APW
+5VSWI
+3V3SW
B7 FROM SCALER
B2 TO HERCULES
B8 TO SCALER
B7 TO SCALER
B3 SYNC INTERFACE
Hsync_SDTV
H_PC
Vsync_SDTV
V_PC
B18 FROM ADC
COL_Di(8)
COL_Di(8)_INV
COL_Do(8)
COL_Do(8)_INV
B19
AHSYNC
AVSYNC
B12
B12 FROM HDMI
V_HDMI
H_HDMI
HDMI_VVS
HDMI_VHS
PC_HD_SEL
I_PC_HD_SEL
SD_HD_SEL
HD_FILTER
SOG
R_PR+
R_PR-
G_Y+
G_Y-
B_PB+
B_PB-
R-PR-ADC
G-Y-ADC
B-PB-ADC
3139 123 6093.1
F_15430_013.eps
140405

| | |
|---|---|
| 2E00 | C2 |
| 2E01 | C2 |
| 2E02 | C2 |
| 2E03 | B5 |
| 2E04 | B7 |
| 2E05 | B7 |
| 2E06 | B7 |
| 2E07 | C7 |
| 2E08 | C7 |
| 2E09 | C7 |
| 2E10 | C7 |
| 2E11 | D7 |
| 2E12 | D7 |
| 2E13 | D7 |
| 2E14 | D7 |
| 2E15 | A10 |
| 2E16 | B8 |
| 2E17 | B8 |
| 2E18 | B8 |
| 2E19 | B8 |
| 2E20 | B8 |
| 2E21 | A9 |
| 2E22 | B9 |
| 2E23 | B9 |
| 2E24 | C10 |
| 2E25 | C10 |
| 2E26 | C10 |
| 2E27 | C10 |
| 2E28 | C10 |
| 2E29 | D10 |
| 2E30 | D10 |
| 2E31 | E3 |
| 2E32 | E6 |
| 2E33 | C2 |
| 2E34 | C2 |
| 2E35 | D2 |
| 2E36 | E10 |
| 2E37 | B9 |
| 2E38 | B9 |
| 2E39 | B9 |
| 3E00 | A2 |
| 3E01 | A2 |
| 3E02 | A2 |
| 3E06 | C3 |
| 3E07 | C3 |
| 3E08 | C3 |
| 3E09 | C3 |
| 3E10 | C3 |
| 3E11 | C3 |
| 3E12 | C5 |
| 3E13 | B6 |
| 3E14 | B6 |
| 3E15 | B6 |
| 3E16 | B6 |
| 3E17 | B6 |
| 3E18 | B7 |
| 3E19 | C6 |
| 3E20 | C6 |
| 3E21 | D6 |
| 3E22 | D6 |
| 3E23 | D7 |
| 3E24 | C10 |
| 3E25 | C10 |
| 3E26 | C10 |
| 3E27 | C10 |
| 3E28 | C10 |
| 3E29 | D10 |
| 3E30 | D10 |
| 3E31 | E2 |
| 3E32 | F2 |
| 3E33 | F2 |
| 3E34 | F2 |
| 3E35 | E5 |
| 3E36 | F5 |
| 3E37 | G4 |
| 3E38 | F6 |
| 3E39 | E6 |
| 3E41 | E9 |
| 3E42 | F9 |
| 3E43 | G9 |
| 3E44 | E11 |
| 3E45 | F11 |
| 3E46 | G11 |
| 3E49 | G5 |
| 3E50 | C3 |
| 3E51 | C3 |
| 3E52 | C3 |
| 3E53 | D3 |
| 3E54 | D3 |
| 3E55 | D3 |
| 4E03 | B6 |
| 4E10 | E2 |
| 4E11 | G3 |
| 4E12 | D5 |
| 4E13 | D5 |
| 4E14 | D5 |
| 5E00 | B4 |
| 5E01 | B8 |
| 5E02 | A10 |
| 5E03 | E3 |
| 6E00 | F2 |
| 6E01 | F2 |
| 6E02 | F2 |
| 6E03 | F2 |
| 7E00 | B4 |
| 7E01 | B8 |
| 7E02 | A10 |
| 7E03 | E3 |
| 7E04-1 | E5 |
| 7E04-2 | E6 |
| 7E04-3 | F5 |
| 7E04-4 | F6 |
| 7E04-5 | G5 |
| 7E04-6 | G6 |
| 7E05-1 | E9 |
| 7E05-2 | E10 |
| 7E05-3 | F9 |
| 7E05-4 | F10 |
| 7E05-5 | G9 |
| 7E05-6 | G10 |
| FE00 | B2 |
| FE01 | B2 |
| FE02 | B2 |
| FE03 | C5 |
| FE04 | C7 |
| FE05 | D7 |
| FE06 | B8 |
| FE07 | D8 |
| FE08 | B11 |
| FE09 | C9 |
| FE10 | C9 |
| FE11 | C9 |
| FE12 | C9 |
| FE13 | D9 |
| IE00 | B4 |
| IE01 | B7 |
| IE02 | B7 |
| IE03 | D6 |
| IE04 | D7 |
| IE05 | A9 |
| IE06 | B9 |
| IE07 | B9 |
| IE08 | A10 |
| IE09 | E2 |
| IE10 | F2 |
| IE11 | F2 |
| IE12 | F2 |
| IE13 | C3 |
| IE14 | C3 |
| IE15 | C3 |
| IE16 | C3 |
| IE17 | A10 |
| IE18 | D2 |
| IE19 | C6 |
| IE20 | C7 |
| IE21 | D6 |
| IE22 | C7 |
| IE23 | D7 |
| IE24 | F7 |
| IE25 | C7 |
| IE26 | C7 |
| IE27 | E7 |
| IE28 | G6 |
| IE29 | A10 |
| IE30 | A10 |
| IE31 | E11 |
| IE32 | C10 |
| IE33 | C11 |
| IE34 | D10 |
| IE35 | B7 |
| IE36 | B7 |
| IE37 | B7 |

## SSB: Digital I/O


B14 DIGITAL IO
B14
B 1 3
TO MUX-SYNC INTERFACE
B 8
TO SCALER
B 7
TO SCALER
B 2
To HERCULES
RGB/COMPONENT VIDEO INPUT
1F00-4
YKF45-7005
DVI INPUT
ROW_A
1F00-1
ROW_B
1F00-2
ROW_C
1F00-3
DVI CONNECTOR
YKF45-7005
7F03
M24C02-WMN6
(256x8)
EEPROM
ADR
WC
SCL
SDA
DDC_5V
DVI_5V
+5VSWI
BAS316
PC AUDIO IN
1F01
YKB21-5101A
S001
S002
RINA|Pr
GINA|YINA
H_PC
BINA|Pb
V_PC
SCL_DVI
SDA_DVI
RX2-IN
RX2+IN
RX1-IN
RX1+IN
HOT_PLUG
RX0-IN
RX0+IN
RXC+IN
RXC-IN
AudioIN2L
AudioIN2R
3139 123 6093.1
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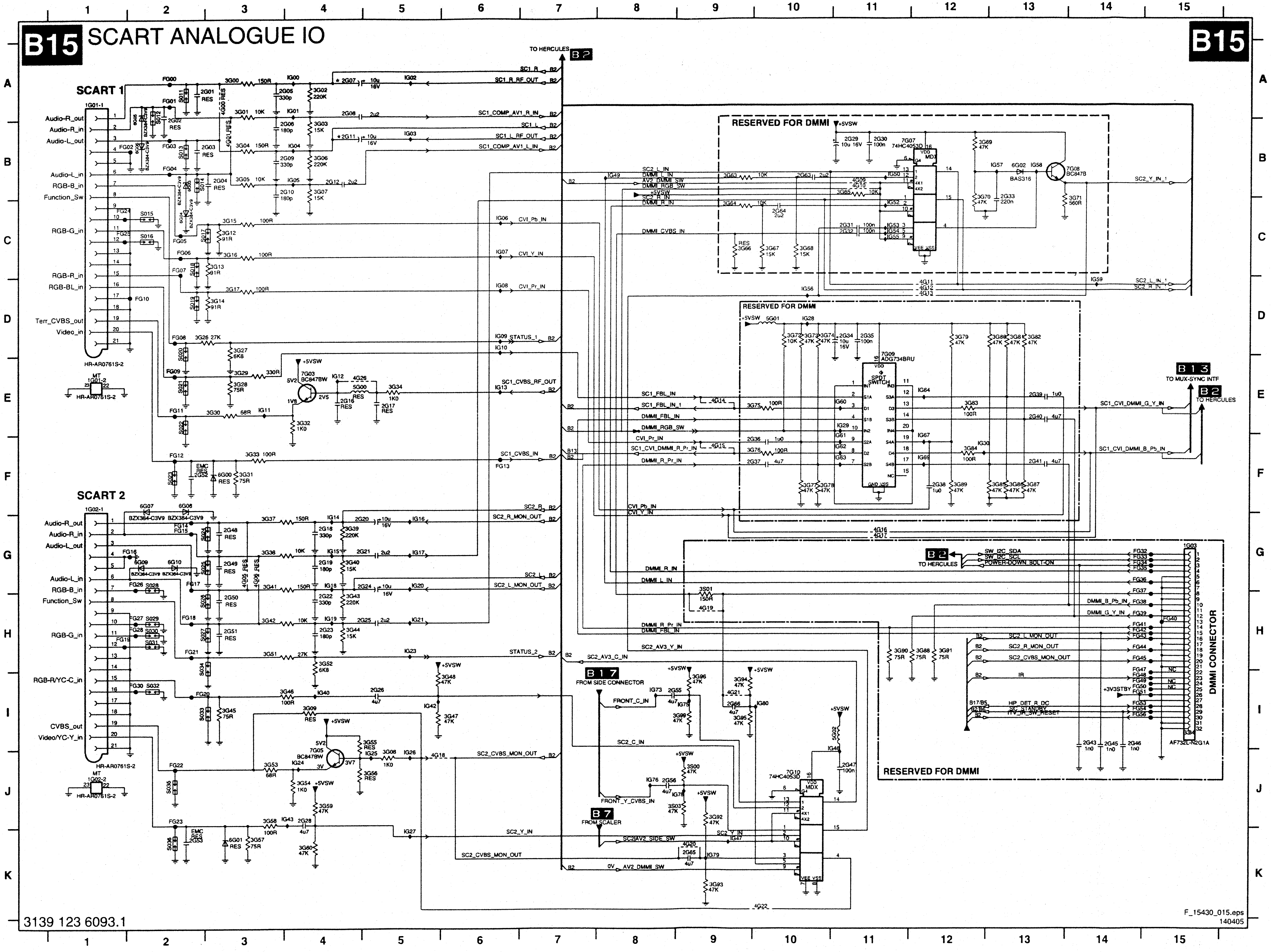
140405
1
2
3
4
5
6
7
8
9
10
A
B
C
D
E
F
G

| | |
|---|---|
| 1F00-1 | D1 |
| 1F00-2 | E1 |
| 1F00-3 | F1 |
| 1F00-4 | B1 |
| 1F01 | A7 |
| 2F00 | A2 |
| 2F02 | B2 |
| 2F04 | B3 |
| 2F05 | C2 |
| 2F07 | C3 |
| 2F08 | E2 |
| 2F09 | E2 |
| 2F10 | E3 |
| 2F11 | F2 |
| 2F12 | F2 |
| 2F13 | B9 |
| 2F14 | B9 |
| 2F15 | B9 |
| 2F16 | B9 |
| 3F00 | A2 |
| 3F09 | B2 |
| 3F10 | B3 |
| 3F11 | C2 |
| 3F16 | D4 |
| 3F17 | D4 |
| 3F18 | D4 |
| 3F19 | E2 |
| 3F20 | F2 |
| 3F21 | F2 |
| 3F22 | F3 |
| 3F23 | F3 |
| 3F24 | B8 |
| 3F25 | B8 |
| 3F26 | B9 |
| 3F27 | B9 |
| 3F28 | E2 |
| 3F29 | E2 |
| 5F00 | A3 |
| 5F01 | B3 |
| 5F02 | C3 |
| 5F03 | F4 |
| 6F00 | F4 |
| 6F01 | F3 |
| 7F03 | D2 |
| FF00 | D1 |
| FF01 | E1 |
| FF02 | E1 |
| FF03 | E1 |
| FF04 | E1 |
| FF05 | E1 |
| FF06 | E1 |
| FF07 | F1 |
| FF08 | F1 |
| FF09 | F1 |
| FF10 | F1 |
| FF11 | G1 |
| FF12 | G1 |
| FF13 | G1 |
| IF00 | D3 |
| IF01 | F2 |
| IF02 | F4 |
| IF03 | F5 |
| IF04 | B8 |
| IF05 | B8 |
| IF06 | F1 |
| IF07 | F1 |
| IF08 | G1 |
| IF11 | A6 |
| IF12 | B1 |
| IF13 | B1 |
| IF14 | B2 |
| IF15 | B2 |
| IF17 | B6 |
| IF20 | C6 |
| IF21 | F5 |
| IF22 | B9 |
| IF23 | B9 |
| S001 | B8 |
| S002 | B8 |

## SSB: Analog I/O


B15
SCART ANALOGUE IO
B15
SCART 1
SCART 2
1G01-1
1G02-1
Audio-R_out
Audio-R_in
Audio-L_out
Audio-L_in
RGB-B_in
Function_Sw
RGB-G_in
RGB-R_in
RGB-BL_in
Terr_CVBS_out
Video_in
RGB-R/YC-C_in
CVBS_out
Video/YC-Y_in
HR-AR0761S-2
TO HERCULES
B2
SC1_R
SC1_RF_OUT
SC1_COMP_AV1_R_IN
SC1_L
SC1_L_RF_OUT
SC1_COMP_AV1_L_IN
CVI_Pb_IN
CVI_Y_IN
CVI_Pr_IN
STATUS_1
SC1_CVBS_RF_OUT
SC1_CVBS_IN
SC2_R
SC2_R_MON_OUT
SC2_L
SC2_L_MON_OUT
STATUS_2
SC2_CVBS_MON_OUT
SC2_Y_IN
SC2_AV3_C_IN
SC2_AV3_Y_IN
RESERVED FOR DMMI
74HC4053D
BC847B
BAS316
SC2_Y_IN_1
SC2_L_IN
SC2_R_IN
DMMI_CVBS_IN
7G09
ADG734BRU
SPDT SWITCH
B13
TO MUX-SYNC INTF
B2
TO HERCULES
SC1_CVI_DMMI_G_Y_IN
SC1_CVI_DMMI_B_Pb_IN
SC1_FBL_IN
SC1_FBL_IN_1
DMMI_FBL_IN
DMMI_RGB_SW
CVI_Pr_IN
SC1_CVI_DMMI_R_Pr_IN
DMMI_R_Pr_IN
DMMI_R_IN
DMMI_L_IN
SW_I2C_SDA
SW_I2C_SCL
POWER-DOWN_BOLT-ON
DMMI_B_Pb_IN
DMMI_G_Y_IN
SC2_L_MON_OUT
SC2_R_MON_OUT
SC2_CVBS_MON_OUT
IR
HP_DET_R_DC
SC_STANDBY
ITV_IR_SW_RESET
DMMI CONNECTOR
AF732L-N2G1A
B17
FROM SIDE CONNECTOR
FRONT_C_IN
SC2_C_IN
FRONT_Y_CVBS_IN
B7
FROM SCALER
SC2/AV2_SIDE_SW
AV2_DMMI_SW
7G10
74HC4053D
+5VSW
+3V3STBY
BC847BW
3139 123 6093.1
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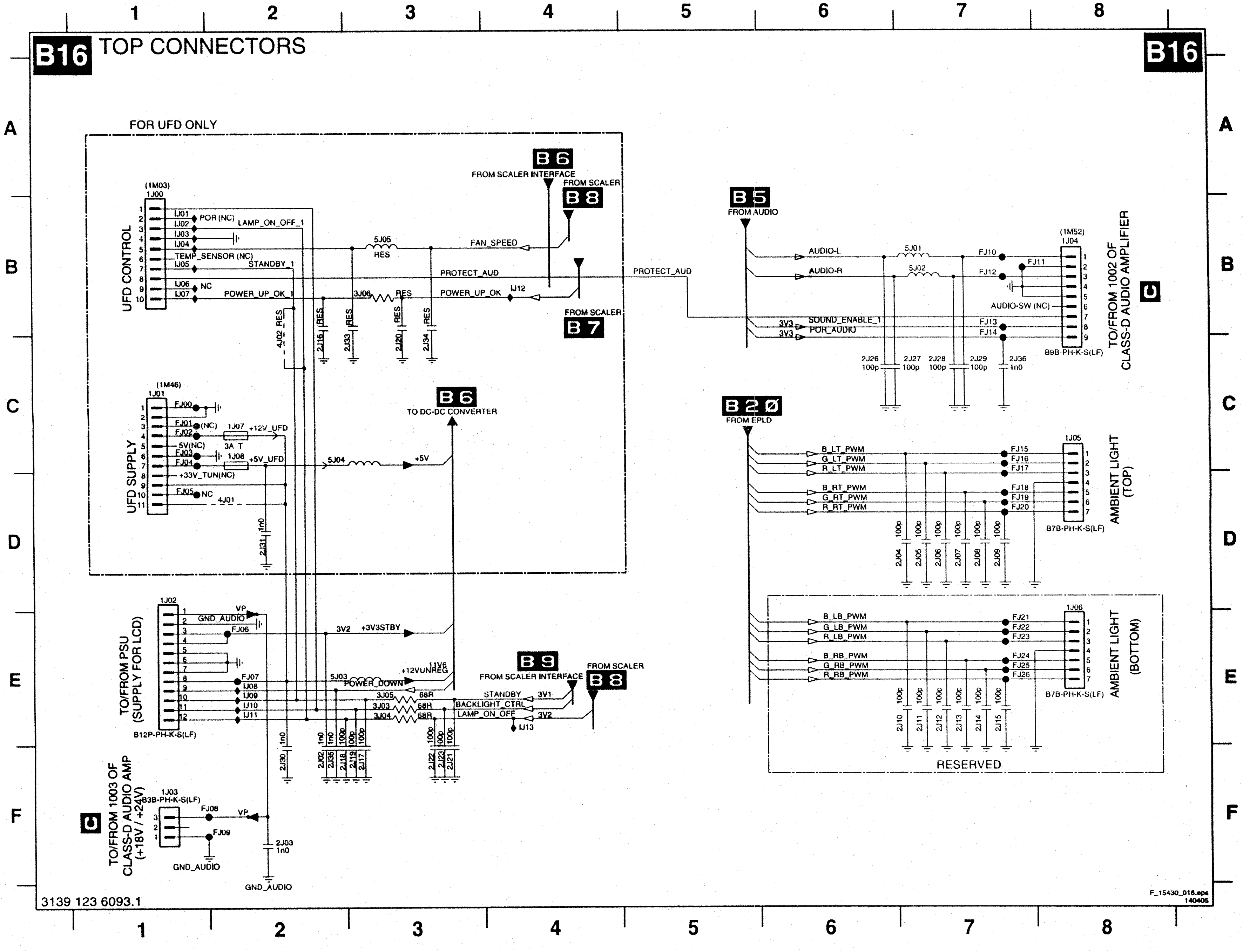
140405

|  |  |
|---|---|
| 1G01-1 | A1 |
| 1G01-2 | E1 |
| 1G02-1 | F1 |
| 1G02-2 | J1 |
| 1G03 | G15 |
| 2G01 | A3 |
| 2G02 | A2 |
| 2G03 | B3 |
| 2G04 | B3 |
| 2G05 | A3 |
| 2G06 | B3 |
| 2G07 | A4 |
| 2G08 | A4 |
| 2G09 | B3 |
| 2G10 | B3 |
| 2G11 | B4 |
| 2G12 | B4 |
| 2G16 | E4 |
| 2G17 | E5 |
| 2G18 | G4 |
| 2G19 | G4 |
| 2G20 | G5 |
| 2G21 | G4 |
| 2G22 | H4 |
| 2G23 | H4 |
| 2G24 | G5 |
| 2G25 | H4 |
| 2G26 | I5 |
| 2G28 | J4 |
| 2G29 | B11 |
| 2G30 | B11 |
| 2G31 | C11 |
| 2G32 | C11 |
| 2G33 | C13 |
| 2G34 | D11 |
| 2G35 | D11 |
| 2G36 | F9 |
| 2G37 | F9 |
| 2G38 | F12 |
| 2G39 | E13 |
| 2G40 | E13 |
| 2G41 | F13 |
| 2G43 | I14 |
| 2G45 | I14 |
| 2G46 | I14 |
| 2G47 | J11 |
| 2G48 | G3 |
| 2G49 | G3 |
| 2G50 | H3 |
| 2G51 | H3 |
| 2G52 | F2 |
| 2G53 | K2 |
| 2G55 | I8 |
| 2G56 | J8 |
| 2G63 | B10 |
| 2G64 | C10 |
| 2G65 | K9 |
| 2G66 | I9 |
| 3G00 | A3 |
| 3G01 | A3 |
| 3G02 | A4 |
| 3G03 | B4 |
| 3G04 | B3 |
| 3G05 | B3 |
| 3G06 | B4 |
| 3G07 | B4 |
| 3G08 | J5 |
| 3G09 | I4 |
| 3G12 | C3 |
| 3G13 | C3 |
| 3G14 | D3 |
| 3G15 | C3 |
| 3G16 | C3 |
| 3G17 | D3 |
| 3G26 | D2 |
| 3G27 | D3 |
| 3G28 | E3 |
| 3G29 | E3 |
| 3G30 | E3 |
| 3G31 | F3 |
| 3G32 | E4 |
| 3G33 | F3 |
| 3G34 | E5 |
| 3G37 | G3 |
| 3G38 | G3 |
| 3G39 | G4 |
| 3G40 | G4 |
| 3G41 | G3 |
| 3G42 | H3 |
| 3G43 | H4 |
| 3G44 | H4 |
| 3G45 | I3 |
| 3G46 | I3 |
| 3G47 | I6 |
| 3G48 | I6 |
| 3G51 | H3 |
| 3G52 | H4 |
| 3G53 | J3 |
| 3G54 | J4 |
| 3G55 | I5 |
| 3G56 | J5 |
| 3G57 | K3 |
| 3G58 | J3 |
| 3G59 | J4 |
| 3G60 | K4 |
| 3G63 | B9 |
| 3G64 | C9 |
| 3G65 | B11 |
| 3G66 | C9 |
| 3G67 | C10 |
| 3G68 | C10 |
| 3G69 | B12 |
| 3G70 | C12 |
| 3G71 | C14 |
| 3G72 | D10 |
| 3G73 | D10 |
| 3G74 | D10 |
| 3G75 | E9 |
| 3G76 | F9 |
| 3G77 | F10 |
| 3G78 | F10 |
| 3G79 | D12 |
| 3G80 | D13 |
| 3G81 | D13 |
| 3G82 | D13 |
| 3G83 | E12 |
| 3G84 | F12 |
| 3G85 | F13 |
| 3G86 | F13 |
| 3G87 | F13 |
| 3G88 | H12 |
| 3G89 | F12 |
| 3G90 | H11 |
| 3G91 | H12 |
| 3G92 | J9 |
| 3G93 | K9 |
| 3G94 | I9 |
| 3G95 | I9 |
| 3G96 | I9 |
| 3G99 | I8 |
| 3S00 | J9 |
| 3S01 | G9 |
| 3S03 | J8 |
| 4G00 | A3 |
| 4G01 | B3 |
| 4G05 | G3 |
| 4G06 | G3 |
| 4G09 | B11 |
| 4G10 | B11 |
| 4G11 | D12 |
| 4G12 | D12 |
| 4G13 | D12 |
| 4G14 | E9 |
| 4G15 | F9 |
| 4G16 | G11 |
| 4G17 | G11 |
| 4G18 | J5 |
| 4G19 | H9 |
| 4G20 | K9 |
| 4G21 | I9 |
| 4G22 | K10 |
| 4G26 | E4 |
| 5G00 | E4 |
| 5G01 | D10 |
| 5G02 | I11 |
| 6G00 | F3 |
| 6G01 | K3 |
| 6G02 | B13 |
| 6G03 | B2 |
| 6G04 | C2 |
| 6G05 | A2 |
| 6G06 | B2 |
| 6G07 | F2 |
| 6G08 | F2 |
| 6G09 | G2 |
| 6G10 | G2 |
| 7G03 | E4 |
| 7G05 | J4 |
| 7G07 | B11 |
| 7G08 | B13 |
| 7G09 | E11 |
| 7G10 | J10 |
| FG00 | A2 |
| FG01 | A2 |
| FG02 | B1 |
| FG03 | B2 |
| FG04 | B2 |
| FG05 | C2 |
| FG06 | C2 |
| FG07 | C2 |
| FG08 | D2 |
| FG09 | E2 |
| FG10 | D2 |
| FG11 | E2 |
| FG12 | F2 |
| FG13 | F6 |
| FG14 | G2 |
| FG15 | G2 |
| FG16 | G1 |
| FG17 | G2 |
| FG18 | H2 |
| FG19 | H1 |
| FG20 | I2 |
| FG21 | H2 |
| FG22 | J2 |
| FG23 | J2 |
| FG24 | C1 |
| FG25 | C1 |
| FG26 | G2 |
| FG27 | H2 |
| FG28 | H2 |
| FG30 | I2 |
| FG32 | G14 |
| FG33 | G14 |
| FG34 | G14 |
| FG35 | G14 |
| FG36 | G14 |
| FG37 | H14 |
| FG38 | H14 |
| FG39 | H14 |
| FG40 | H15 |
| FG41 | H14 |
| FG42 | H14 |
| FG43 | H14 |
| FG44 | H14 |
| FG45 | H14 |
| FG47 | I14 |
| FG48 | I14 |
| FG49 | I14 |
| FG50 | I14 |
| FG51 | I14 |
| FG53 | I14 |
| FG54 | I14 |
| FG56 | I14 |
| IG00 | A4 |
| IG01 | A4 |
| IG02 | A5 |
| IG03 | B5 |
| IG04 | B4 |
| IG05 | B4 |
| IG06 | C6 |
| IG07 | C6 |
| IG08 | D6 |
| IG09 | D6 |
| IG10 | D6 |
| IG11 | E3 |
| IG12 | E4 |
| IG13 | E6 |
| IG14 | G4 |
| IG15 | G4 |
| IG16 | G5 |
| IG17 | G5 |
| IG18 | G4 |
| IG19 | H4 |
| IG20 | G5 |
| IG21 | H5 |
| IG23 | H5 |
| IG24 | J4 |
| IG25 | J5 |
| IG26 | J5 |
| IG27 | K5 |
| IG28 | D10 |
| IG29 | E11 |
| IG30 | F12 |
| IG40 | I4 |
| IG42 | I5 |
| IG43 | J4 |
| IG46 | I11 |
| IG47 | K9 |
| IG49 | B8 |
| IG50 | B11 |
| IG52 | C11 |
| IG53 | C11 |
| IG54 | C11 |
| IG55 | C11 |
| IG56 | D10 |
| IG57 | B13 |
| IG58 | B13 |
| IG59 | D14 |
| IG60 | E11 |
| IG61 | F11 |
| IG62 | F11 |
| IG63 | F11 |
| IG64 | E12 |
| IG67 | F12 |
| IG69 | F12 |
| IG73 | I8 |
| IG75 | I9 |
| IG76 | J8 |
| IG78 | J9 |
| IG79 | K9 |
| IG80 | I10 |
| S011 | A2 |
| S012 | B2 |
| S013 | B2 |
| S014 | B2 |
| S015 | C2 |
| S016 | C2 |
| S017 | C3 |
| S018 | C2 |
| S019 | D2 |
| S020 | E2 |
| S021 | E2 |
| S022 | E2 |
| S023 | F2 |
| S024 | G3 |
| S025 | G3 |
| S026 | H3 |
| S027 | H2 |
| S028 | G2 |
| S029 | H2 |
| S030 | H2 |
| S031 | H2 |
| S032 | I2 |
| S033 | I2 |
| S034 | I2 |
| S035 | J2 |
| S036 | K2 |

## SSB: Top Connectors


B16 TOP CONNECTORS
B16
FOR UFD ONLY
UFD CONTROL
UFD SUPPLY
TO/FROM PSU (SUPPLY FOR LCD)
TO/FROM 1003 OF CLASS-D AUDIO AMP (+18V / +24V)
TO/FROM 1002 OF CLASS-D AUDIO AMPLIFIER
AMBIENT LIGHT (TOP)
AMBIENT LIGHT (BOTTOM)
RESERVED
B6 FROM SCALER INTERFACE
B8 FROM SCALER
B7 FROM SCALER
B6 TO DC-DC CONVERTER
B9 FROM SCALER INTERFACE
B5 FROM AUDIO
B20 FROM EPLD
POR (NC)
LAMP_ON_OFF_1
TEMP_SENSOR (NC)
STANDBY_1
POWER_UP_OK_1
FAN_SPEED
PROTECT_AUD
POWER_UP_OK
+12V_UFD
+5V_UFD
+33V_TUN(NC)
+5V
+3V3STBY
+12VUNREG
POWER_DOWN
STANDBY
BACKLIGHT_CTRL
LAMP_ON_OFF
GND_AUDIO
VP
AUDIO-L
AUDIO-R
SOUND_ENABLE_1
POR_AUDIO
AUDIO-SW (NC)
B_LT_PWM
G_LT_PWM
R_LT_PWM
B_RT_PWM
G_RT_PWM
R_RT_PWM
B_LB_PWM
G_LB_PWM
R_LB_PWM
B_RB_PWM
G_RB_PWM
R_RB_PWM
B12P-PH-K-S(LF)
B3B-PH-K-S(LF)
B9B-PH-K-S(LF)
B7B-PH-K-S(LF)
3139 123 6093.1
F_15430_016.eps 140405

| | |
|---|---|
| 1J00 | B1 |
| 1J01 | C1 |
| 1J02 | D1 |
| 1J03 | F1 |
| 1J04 | B8 |
| 1J05 | C8 |
| 1J06 | E8 |
| 1J07 | C2 |
| 1J08 | C2 |
| 2J02 | F2 |
| 2J03 | F2 |
| 2J04 | D6 |
| 2J05 | D7 |
| 2J06 | D7 |
| 2J07 | D7 |
| 2J08 | D7 |
| 2J09 | D7 |
| 2J10 | E6 |
| 2J11 | E7 |
| 2J12 | E7 |
| 2J13 | E7 |
| 2J14 | E7 |
| 2J15 | E7 |
| 2J16 | C2 |
| 2J17 | F3 |
| 2J18 | F2 |
| 2J19 | F3 |
| 2J20 | C3 |
| 2J21 | F3 |
| 2J22 | F3 |
| 2J23 | F3 |
| 2J26 | C6 |
| 2J27 | C7 |
| 2J28 | C7 |
| 2J29 | C7 |
| 2J30 | F2 |
| 2J31 | D2 |
| 2J33 | C2 |
| 2J34 | C3 |
| 2J35 | F2 |
| 2J36 | C7 |
| 3J03 | E3 |
| 3J04 | E3 |
| 3J05 | E3 |
| 3J06 | B3 |
| 4J01 | D2 |
| 4J02 | C2 |
| 5J01 | B7 |
| 5J02 | B7 |
| 5J03 | E2 |
| 5J04 | C2 |
| 5J05 | B3 |
| FJ00 | C1 |
| FJ01 | C1 |
| FJ02 | C1 |
| FJ03 | C1 |
| FJ04 | C1 |
| FJ05 | D1 |
| FJ06 | E2 |
| FJ07 | E2 |
| FJ08 | F1 |
| FJ09 | F2 |
| FJ10 | B7 |
| FJ11 | B8 |
| FJ12 | B7 |
| FJ13 | B7 |
| FJ14 | C7 |
| FJ15 | C7 |
| FJ16 | C7 |
| FJ17 | D7 |
| FJ18 | D7 |
| FJ19 | D7 |
| FJ20 | D7 |
| FJ21 | E7 |
| FJ22 | E7 |
| FJ23 | E7 |
| FJ24 | E7 |
| FJ25 | E7 |
| FJ26 | E7 |
| IJ01 | B1 |
| IJ02 | B1 |
| IJ03 | B1 |
| IJ04 | B1 |
| IJ05 | B1 |
| IJ06 | B1 |
| IJ07 | B1 |
| IJ08 | E2 |
| IJ09 | E2 |
| IJ10 | E2 |
| IJ11 | E2 |
| IJ12 | B4 |
| IJ13 | E4 |

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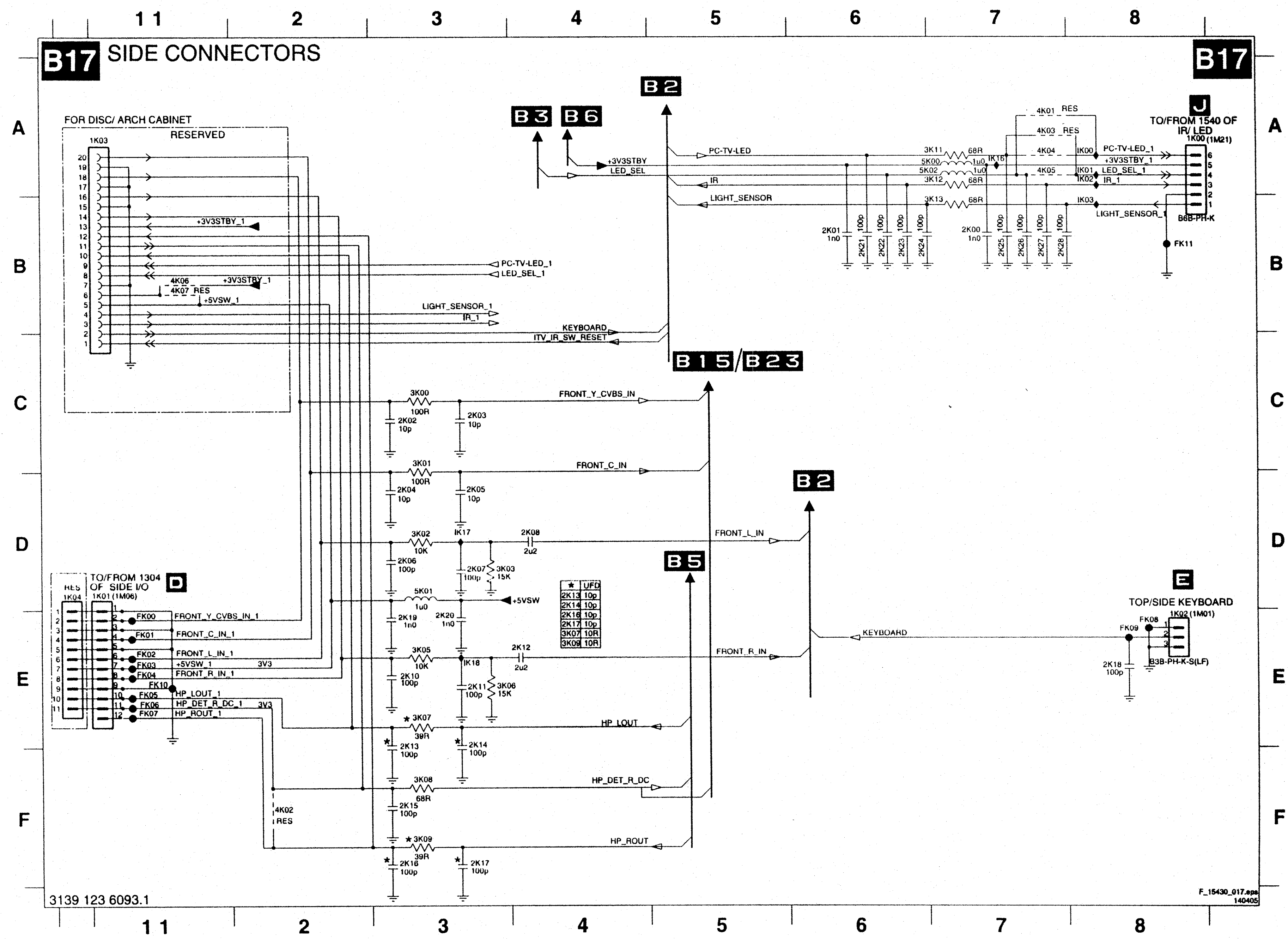
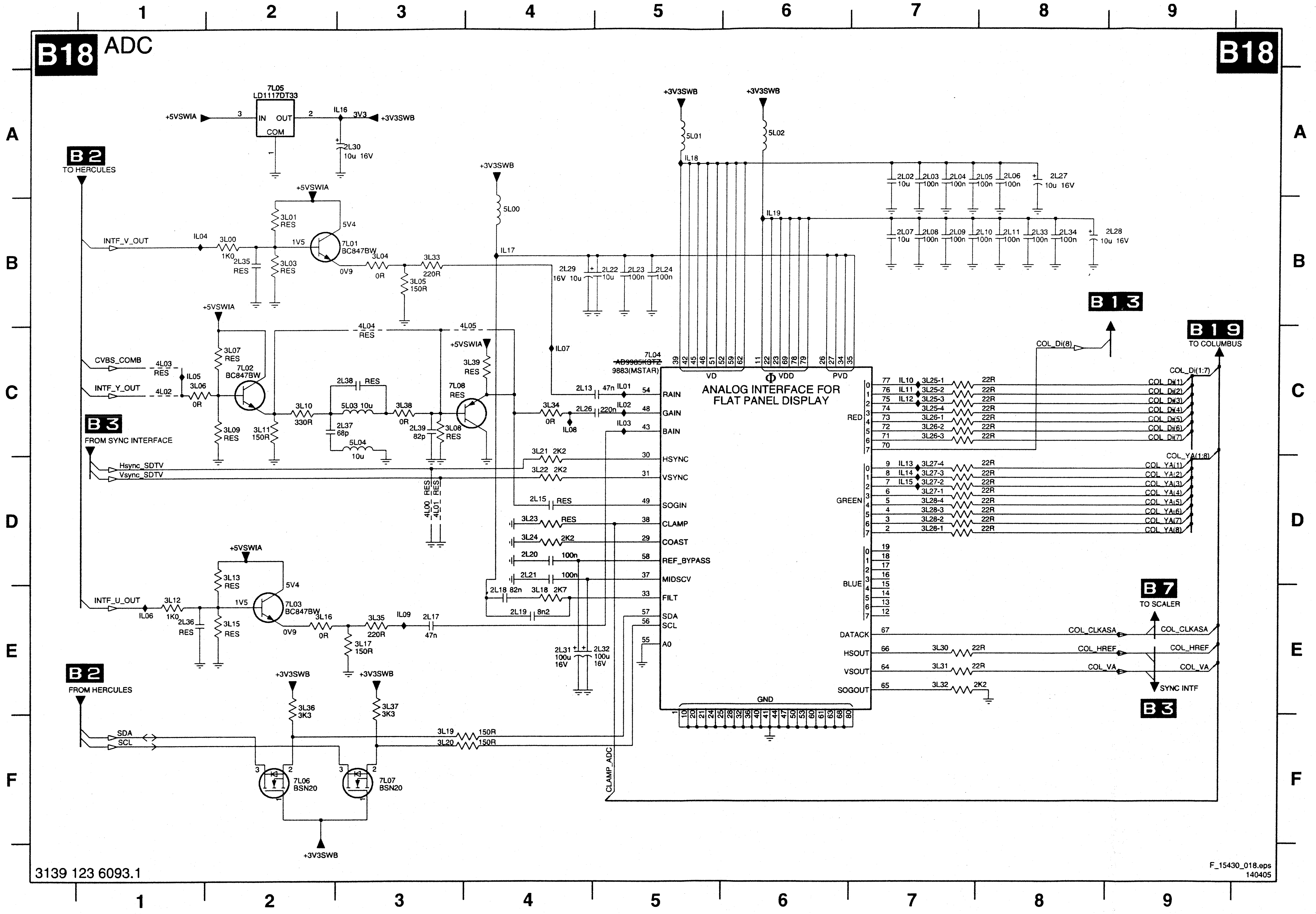
## SSB: Side Connectors


B17 SIDE CONNECTORS
B17
FOR DISC/ ARCH CABINET
RESERVED
TO/FROM 1304 OF SIDE I/O
TO/FROM 1540 OF IR/ LED
TOP/SIDE KEYBOARD
B2
B3
B6
B5
B15/B23
+3V3STBY
LED_SEL
PC-TV-LED
IR
LIGHT_SENSOR
PC-TV-LED_1
LED_SEL_1
IR_1
LIGHT_SENSOR_1
+3V3STBY_1
+5VSW_1
+5VSW
KEYBOARD
ITV_IR_SW_RESET
FRONT_Y_CVBS_IN
FRONT_C_IN
FRONT_L_IN
FRONT_R_IN
HP_LOUT
HP_DET_R_DC
HP_ROUT
FRONT_Y_CVBS_IN_1
FRONT_C_IN_1
FRONT_L_IN_1
FRONT_R_IN_1
HP_LOUT_1
HP_DET_R_DC_1
HP_ROUT_1
* UFD
2K13 10p
2K14 10p
2K16 10p
2K17 10p
3K07 10R
3K09 10R
B8B-PH-K
B3B-PH-K-S(LF)
3139 123 6093.1
F_15430_017.eps 140405

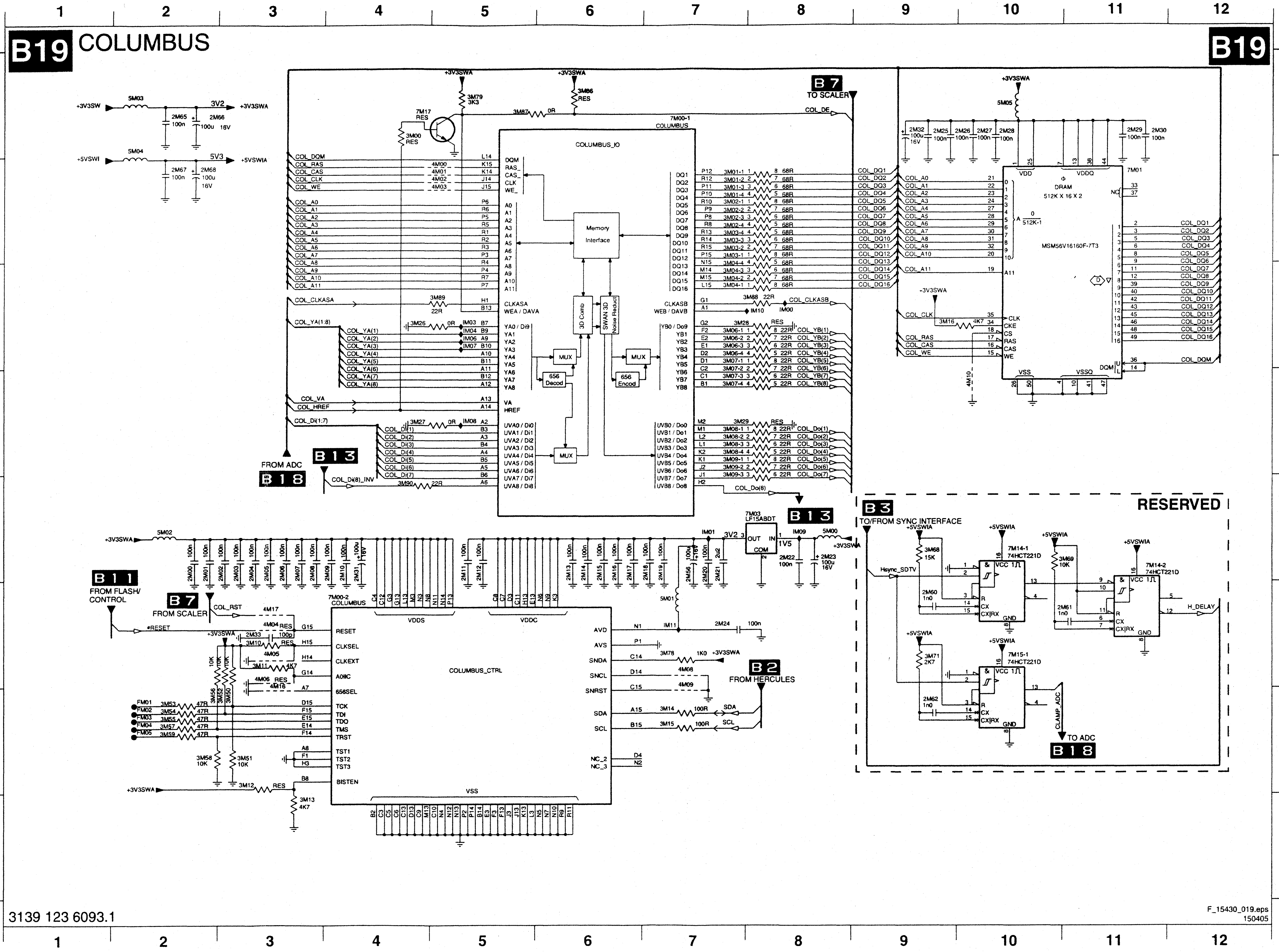
| | |
|---|---|
| 1K00 | A8 |
| 1K01 | D1 |
| 1K02 | E8 |
| 1K03 | A1 |
| 1K04 | D1 |
| 2K00 | B7 |
| 2K01 | B6 |
| 2K02 | C3 |
| 2K03 | C3 |
| 2K04 | D3 |
| 2K05 | D3 |
| 2K06 | D3 |
| 2K07 | D3 |
| 2K08 | D4 |
| 2K10 | E3 |
| 2K11 | E3 |
| 2K12 | E4 |
| 2K13 | F3 |
| 2K14 | E3 |
| 2K15 | F3 |
| 2K16 | F3 |
| 2K17 | F3 |
| 2K18 | E8 |
| 2K19 | E3 |
| 2K20 | E3 |
| 2K21 | B6 |
| 2K22 | B6 |
| 2K23 | B6 |
| 2K24 | B6 |
| 2K25 | B7 |
| 2K26 | B7 |
| 2K27 | B7 |
| 2K28 | B7 |
| 3K00 | C3 |
| 3K01 | C3 |
| 3K02 | D3 |
| 3K03 | D3 |
| 3K05 | E3 |
| 3K06 | E3 |
| 3K07 | E3 |
| 3K08 | F3 |
| 3K09 | F3 |
| 3K11 | A7 |
| 3K12 | A7 |
| 3K13 | B7 |
| 4K01 | A7 |
| 4K02 | F2 |
| 4K03 | A7 |
| 4K04 | A7 |
| 4K05 | A7 |
| 4K06 | B1 |
| 4K07 | B1 |
| 5K00 | A7 |
| 5K01 | D3 |
| 5K02 | A7 |
| FK00 | E1 |
| FK01 | E1 |
| FK02 | E1 |
| FK03 | E1 |
| FK04 | E1 |
| FK05 | E1 |
| FK06 | E1 |
| FK07 | E1 |
| FK08 | E8 |
| FK09 | E8 |
| FK10 | E1 |
| FK11 | B8 |
| IK00 | A8 |
| IK01 | A8 |
| IK02 | A8 |
| IK03 | B8 |
| IK16 | A7 |
| IK17 | D3 |
| IK18 | E3 |

## SSB: ADC


B18 ADC
B18
7L05 LD1117DT33
+5VSWIA
IN OUT COM
IL16 3V3 +3V3SWB
2L30 10u 16V
B2 TO HERCULES
+5VSWIA
3L01 RES
5V4
7L01 BC847BW
INTF_V_OUT
IL04 3L00 1K0
1V5
2L35 RES
3L03 RES
0V9
3L04 0R
3L33 220R
3L05 150R
+3V3SWB
5L00
IL17
4L04 RES
4L05
+5VSWIA
CVBS_COMB
4L03 RES
IL05
INTF_Y_OUT
4L02
3L06 0R
3L07 RES
7L02 BC847BW
3L09 RES
3L11 150R
3L10 330R
2L38 RES
5L03 10u
2L37 68p
5L04 10u
3L38 0R
2L39 82p
3L08 RES
3L39 RES
7L08 RES
IL07
B3 FROM SYNC INTERFACE
Hsync_SDTV
Vsync_SDTV
3L21 2K2
3L22 2K2
4L00 RES
4L01 RES
2L13 47n IL01
3L34 0R
2L26 220n IL02
IL08
IL03
2L15 RES
3L23 RES
3L24 2K2
2L20 100n
2L21 100n
2L18 82n
3L18 2K7
2L19 8n2
+5VSWIA
3L13 RES
5V4
7L03 BC847BW
INTF_U_OUT
3L12 1K0
IL06
1V5
2L36 RES
3L15 RES
0V9
3L16 0R
3L35 220R
3L17 150R
IL09
2L17 47n
2L31 100u 16V
2L32 100u 16V
B2 FROM HERCULES
SDA
SCL
+3V3SWB
3L36 3K3
3L37 3K3
3L19 150R
3L20 150R
7L06 BSN20
7L07 BSN20
+3V3SWB
CLAMP_ADC
+3V3SWB
5L01
IL18
+3V3SWB
5L02
IL19
2L02 10u
2L03 100n
2L04 100n
2L05 100n
2L06 100n
2L27 10u 16V
2L07 10u
2L08 100n
2L09 100n
2L10 100n
2L11 100n
2L33 100n
2L34 100n
2L28 10u 16V
2L29 16V 10u
2L22 10u
2L23 100n
2L24 100n
7L04
~~AD9985KSTZ~~
9883(MSTAR)
VD
VDD
PVD
ANALOG INTERFACE FOR FLAT PANEL DISPLAY
RAIN
GAIN
BAIN
HSYNC
VSYNC
SOGIN
CLAMP
COAST
REF_BYPASS
MIDSCV
FILT
SDA
SCL
A0
RED
GREEN
BLUE
DATACK
HSOUT
VSOUT
SOGOUT
GND
IL10 3L25-1 22R
IL11 3L25-2 22R
IL12 3L25-3 22R
3L25-4 22R
3L26-1 22R
3L26-2 22R
3L26-3 22R
IL13 3L27-4 22R
IL14 3L27-3 22R
IL15 3L27-2 22R
3L27-1 22R
3L28-4 22R
3L28-3 22R
3L28-2 22R
3L28-1 22R
3L30 22R
3L31 22R
3L32 2K2
COL_Di(1) … COL_Di(7)
COL_Di(1:7)
COL_YA(1) … COL_YA(8)
COL_YA(1:8)
COL_Di(8)
B13
B19 TO COLUMBUS
B7 TO SCALER
COL_CLKASA
COL_HREF
COL_VA
SYNC INTF
B3
3139 123 6093.1
F_15430_018.eps 140405
1 2 3 4 5 6 7 8 9
A B C D E F

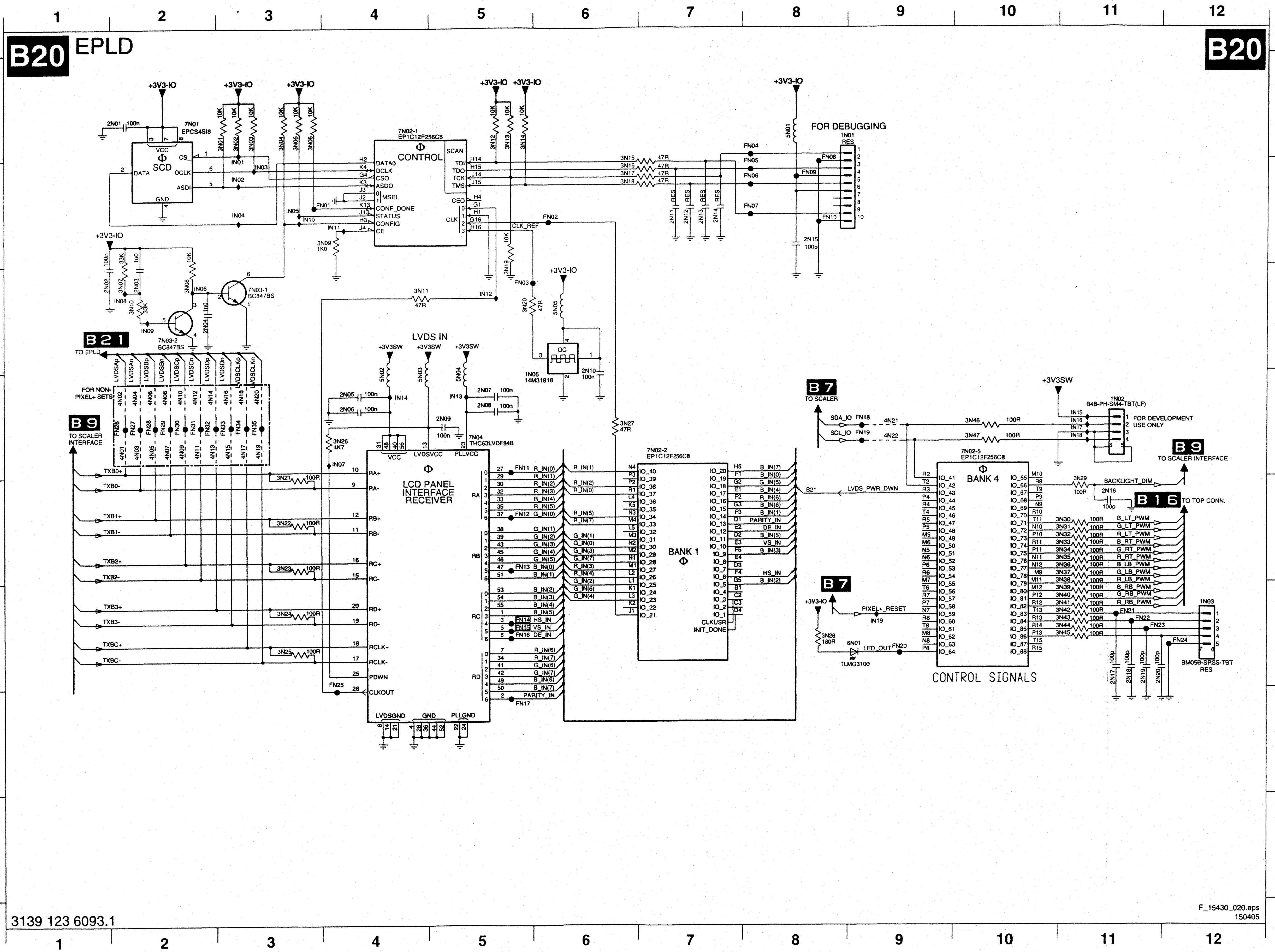
| | |
|---|---|
| 2L02 | A7 |
| 2L03 | A7 |
| 2L04 | A7 |
| 2L05 | A8 |
| 2L06 | A8 |
| 2L07 | B7 |
| 2L08 | B7 |
| 2L09 | B7 |
| 2L10 | B8 |
| 2L11 | B8 |
| 2L13 | C4 |
| 2L15 | D4 |
| 2L17 | E3 |
| 2L18 | E4 |
| 2L19 | E4 |
| 2L20 | D4 |
| 2L21 | D4 |
| 2L22 | B5 |
| 2L23 | B5 |
| 2L24 | B5 |
| 2L26 | C4 |
| 2L27 | A8 |
| 2L28 | B9 |
| 2L29 | B4 |
| 2L30 | A3 |
| 2L31 | E4 |
| 2L32 | E5 |
| 2L33 | B8 |
| 2L34 | B8 |
| 2L35 | B2 |
| 2L36 | E1 |
| 2L37 | C3 |
| 2L38 | C3 |
| 2L39 | C3 |
| 3L00 | B2 |
| 3L01 | B2 |
| 3L03 | B2 |
| 3L04 | B3 |
| 3L05 | B3 |
| 3L06 | C1 |
| 3L07 | C2 |
| 3L08 | C3 |
| 3L09 | C2 |
| 3L10 | C2 |
| 3L11 | C2 |
| 3L12 | E1 |
| 3L13 | D2 |
| 3L15 | E2 |
| 3L16 | E2 |
| 3L17 | E3 |
| 3L18 | E4 |
| 3L19 | F3 |
| 3L20 | F3 |
| 3L21 | C4 |
| 3L22 | D4 |
| 3L23 | D4 |
| 3L24 | D4 |
| 3L25-1 | C7 |
| 3L25-2 | C7 |
| 3L25-3 | C7 |
| 3L25-4 | C7 |
| 3L26-1 | C7 |
| 3L26-2 | C7 |
| 3L26-3 | C7 |
| 3L27-1 | D7 |
| 3L27-2 | D7 |
| 3L27-3 | D7 |
| 3L27-4 | D7 |
| 3L28-1 | D7 |
| 3L28-2 | D7 |
| 3L28-3 | D7 |
| 3L28-4 | D7 |
| 3L30 | E7 |
| 3L31 | E7 |
| 3L32 | E7 |
| 3L33 | B3 |
| 3L34 | C4 |
| 3L35 | E3 |
| 3L36 | E2 |
| 3L37 | E3 |
| 3L38 | C3 |
| 3L39 | C4 |
| 4L00 | D3 |
| 4L01 | D3 |
| 4L02 | C1 |
| 4L03 | C1 |
| 4L04 | C3 |
| 4L05 | C4 |
| 5L00 | B4 |
| 5L01 | A5 |
| 5L02 | A6 |
| 5L03 | C3 |
| 5L04 | C3 |
| 7L01 | B3 |
| 7L02 | C2 |
| 7L03 | E2 |
| 7L04 | C5 |
| 7L05 | A2 |
| 7L06 | F2 |
| 7L07 | F3 |
| 7L08 | C3 |
| IL01 | C5 |
| IL02 | C5 |
| IL03 | C5 |
| IL04 | B1 |
| IL05 | C1 |
| IL06 | E1 |
| IL07 | C4 |
| IL08 | C4 |
| IL09 | E3 |
| IL10 | C7 |
| IL11 | C7 |
| IL12 | C7 |
| IL13 | D7 |
| IL14 | D7 |
| IL15 | D7 |
| IL16 | A3 |
| IL17 | B4 |
| IL18 | A5 |
| IL19 | B6 |

## SSB: Columbus


B19 COLUMBUS
B19
1 2 3 4 5 6 7 8 9 10 11 12
A B C D E F G H
+3V3SW
5M03
3V2
+3V3SWA
2M65 100n
2M66 100u 16V
+5VSWI
5M04
5V3
+5VSWIA
2M67 100n
2M68 100u 16V
7M17 RES
3M00 RES
3M79 3K3
3M86 RES
3M87 0R
B7 TO SCALER
COL_DE
7M00-1 COLUMBUS
COLUMBUS_IO
Memory Interface
3D Comb
SWAN 3D Noise Reduct
MUX
656 Decod
656 Encod
COL_CLKASA
COL_YA(1:8)
COL_VA
COL_HREF
COL_DI(1:7)
FROM ADC
B18
B13
COL_Di(8)_INV
COL_CLKASB
COL_Do(8)
+3V3SWA
5M05
7M01
DRAM 512K X 16 X 2
MSM56V16160F-7T3
COL_DQM
4M10
RESERVED
B3 TO/FROM SYNC INTERFACE
+5VSWIA
Hsync_SDTV
7M14-1 74HCT221D
7M14-2 74HCT221D
7M15-1 74HCT221D
3M68 15K
3M69 10K
3M71 2K7
2M60 1n0
2M61 1n0
2M62 1n0
H_DELAY
CLAMP_ADC
TO ADC
B18
5M02
7M03 LF15ABDT
3V2
1V5
IM01
IM09
5M00
2M22 100n
2M23 100u 16V
B13
B11 FROM FLASH/ CONTROL
B7 FROM SCALER
COL_RST
4M17
7M00-2 COLUMBUS
COLUMBUS_CTRL
VDDS
VDDC
VSS
RESET
CLKSEL
CLKEXT
A0IIC
656SEL
TCK
TDI
TDO
TMS
TRST
TST1
TST2
TST3
BISTEN
AVD
AVS
SNDA
SNCL
SNRST
SDA
SCL
NC_2
NC_3
3M78 1K0 +3V3SWA
4M08
4M09
B2 FROM HERCULES
3M14 100R
3M15 100R
2M24 100n
5M01
FM01
FM02
FM03
FM04
FM05
3M53 47R
3M54 47R
3M55 47R
3M57 47R
3M59 47R
3M58 10K
3M51 10K
3M12 RES
3M13 4K7
3139 123 6093.1
F_15430_019.eps 150405

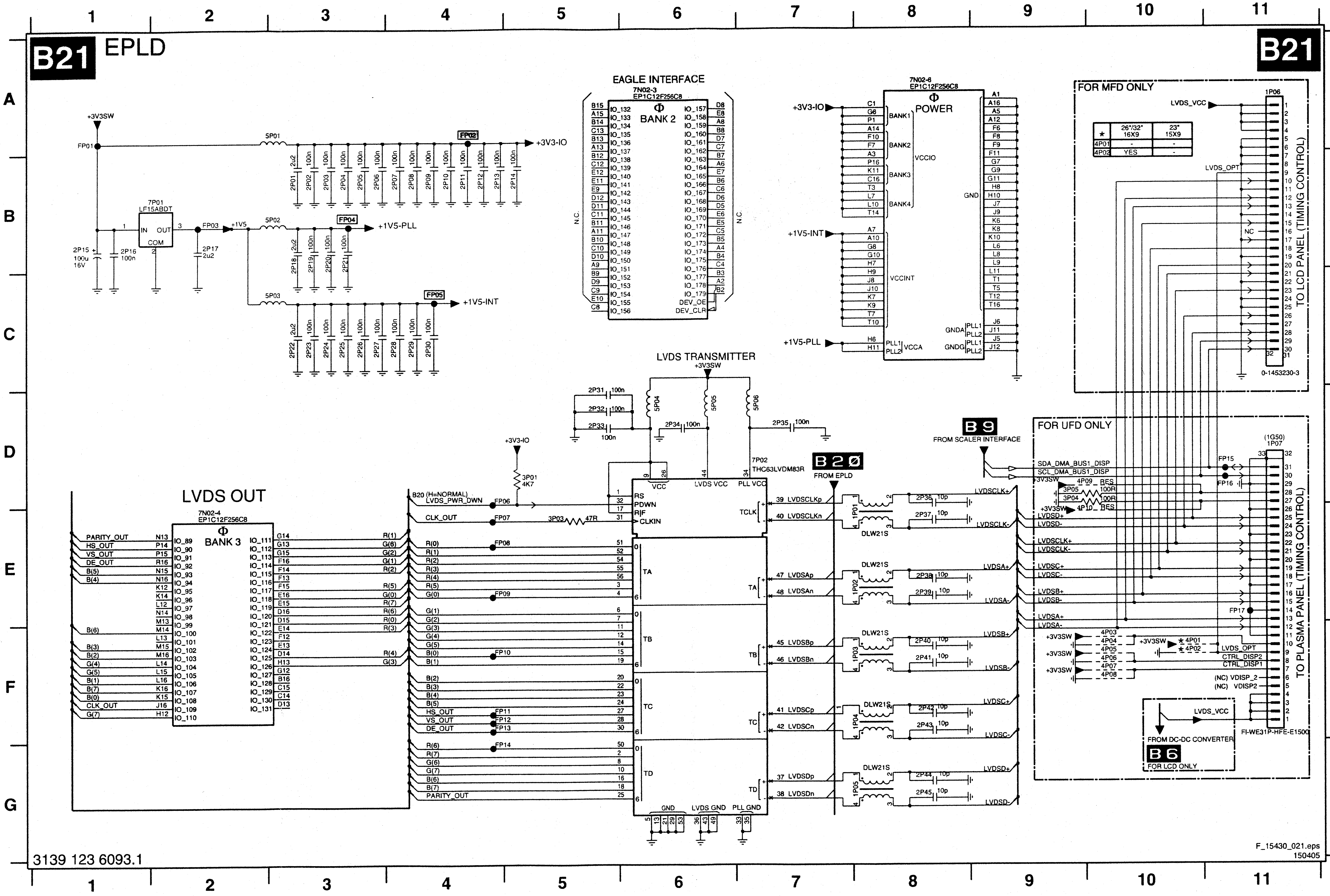
| | |
|---|---|
| 2M00 | E2 |
| 2M01 | E2 |
| 2M02 | E3 |
| 2M03 | E3 |
| 2M04 | E3 |
| 2M05 | E3 |
| 2M06 | E3 |
| 2M07 | E3 |
| 2M08 | E3 |
| 2M09 | E4 |
| 2M10 | E4 |
| 2M11 | E5 |
| 2M12 | E5 |
| 2M13 | E6 |
| 2M14 | E6 |
| 2M15 | E6 |
| 2M16 | E6 |
| 2M17 | E6 |
| 2M18 | E7 |
| 2M19 | E7 |
| 2M20 | E7 |
| 2M21 | E7 |
| 2M22 | E8 |
| 2M23 | E8 |
| 2M24 | F7 |
| 2M25 | A9 |
| 2M26 | A10 |
| 2M27 | A10 |
| 2M28 | A10 |
| 2M29 | A11 |
| 2M30 | A11 |
| 2M31 | E4 |
| 2M32 | A9 |
| 2M33 | F3 |
| 2M56 | E7 |
| 2M60 | F9 |
| 2M61 | F11 |
| 2M62 | G9 |
| 2M65 | A2 |
| 2M66 | A2 |
| 2M67 | B2 |
| 2M68 | B2 |
| 3M00 | A4 |
| 3M01-1 | B7 |
| 3M01-2 | B7 |
| 3M01-3 | B7 |
| 3M01-4 | B7 |
| 3M02-1 | B7 |
| 3M02-2 | B7 |
| 3M02-3 | B7 |
| 3M02-4 | B7 |
| 3M03-1 | B7 |
| 3M03-2 | B7 |
| 3M03-3 | B7 |
| 3M03-4 | B7 |
| 3M04-1 | C7 |
| 3M04-2 | C7 |
| 3M04-3 | C7 |
| 3M04-4 | C7 |
| 3M06-1 | C7 |
| 3M06-2 | C7 |
| 3M06-3 | C7 |
| 3M06-4 | C7 |
| 3M07-1 | C7 |
| 3M07-2 | D7 |
| 3M07-3 | D7 |
| 3M07-4 | D7 |
| 3M08-1 | D7 |
| 3M08-2 | D7 |
| 3M08-3 | D7 |
| 3M08-4 | D7 |
| 3M09-1 | D7 |
| 3M09-2 | D7 |
| 3M09-3 | E7 |
| 3M10 | F3 |
| 3M11 | F3 |
| 3M12 | G3 |
| 3M13 | H3 |
| 3M14 | G7 |
| 3M15 | G7 |
| 3M16 | C9 |
| 3M26 | C4 |
| 3M27 | D4 |
| 3M28 | C7 |
| 3M29 | D7 |
| 3M50 | G3 |
| 3M51 | G3 |
| 3M52 | G3 |
| 3M53 | G2 |
| 3M54 | G2 |
| 3M55 | G2 |
| 3M56 | G2 |
| 3M57 | G2 |
| 3M58 | G2 |
| 3M59 | G2 |
| 3M68 | E9 |
| 3M69 | E11 |
| 3M71 | F9 |
| 3M78 | F7 |
| 3M79 | A5 |
| 3M86 | A6 |
| 3M87 | A5 |
| 3M88 | C8 |
| 3M89 | C5 |
| 3M90 | E4 |
| 4M00 | B5 |
| 4M01 | B5 |
| 4M02 | B5 |
| 4M03 | B5 |
| 4M04 | F3 |
| 4M05 | F3 |
| 4M06 | F3 |
| 4M08 | F7 |
| 4M09 | F7 |
| 4M10 | D10 |
| 4M16 | F3 |
| 4M17 | F3 |
| 5M00 | E8 |
| 5M01 | F7 |
| 5M02 | E2 |
| 5M03 | A2 |
| 5M04 | A2 |
| 5M05 | A10 |
| 7M00-1 | A7 |
| 7M00-2 | F4 |
| 7M01 | B11 |
| 7M03 | E8 |
| 7M14-1 | E10 |
| 7M14-2 | E11 |
| 7M15-1 | F10 |
| 7M17 | A4 |
| FM01 | G2 |
| FM02 | G2 |
| FM03 | G2 |
| FM04 | G2 |
| FM05 | G2 |
| IM00 | C8 |
| IM01 | E7 |
| IM03 | C5 |
| IM04 | C5 |
| IM06 | C5 |
| IM07 | C5 |
| IM08 | D5 |
| IM09 | E8 |
| IM10 | C8 |
| IM11 | F7 |

## SSB: EPLD


B20 EPLD
B20
7N01 EPCS4SI8
SCD
7N02-1 EP1C12F256C8
CONTROL
FOR DEBUGGING
1N01 RES
7N03-1 BC847BS
7N03-2 BC847BS
B21 TO EPLD
FOR NON-PIXEL+ SETS
B9 TO SCALER INTERFACE
LVDS IN
1N05 14M31818
7N04 THC63LVDF84B
LCD PANEL INTERFACE RECEIVER
7N02-2 EP1C12F256C8
BANK 1
B7 TO SCALER
1N02 B48-PH-SM4-TBT(LF)
FOR DEVELOPMENT USE ONLY
7N02-5 EP1C12F256C8
BANK 4
B9 TO SCALER INTERFACE
B16 TO TOP CONN.
B7
1N03
BM05B-SRSS-TBT RES
CONTROL SIGNALS
TLMG3100
3139 123 6093.1
F_15430_020.eps 150405

| | |
|---|---|
| 1N01 | A9 |
| 1N02 | D11 |
| 1N03 | F12 |
| 1N05 | D5 |
| 2N01 | A2 |
| 2N02 | C1 |
| 2N03 | C2 |
| 2N04 | C2 |
| 2N05 | D4 |
| 2N06 | D4 |
| 2N07 | D5 |
| 2N08 | D5 |
| 2N09 | D5 |
| 2N10 | D6 |
| 2N11 | B7 |
| 2N12 | B7 |
| 2N13 | B7 |
| 2N14 | B7 |
| 2N15 | B8 |
| 2N16 | E11 |
| 2N17 | F11 |
| 2N18 | F11 |
| 2N19 | F11 |
| 2N20 | F11 |
| 3N01 | A3 |
| 3N02 | A3 |
| 3N03 | A3 |
| 3N04 | A3 |
| 3N05 | A3 |
| 3N06 | A3 |
| 3N07 | C2 |
| 3N08 | C2 |
| 3N09 | B4 |
| 3N10 | C2 |
| 3N11 | C4 |
| 3N12 | A5 |
| 3N13 | A5 |
| 3N14 | A5 |
| 3N15 | B6 |
| 3N16 | B6 |
| 3N17 | B6 |
| 3N18 | B6 |
| 3N19 | C5 |
| 3N20 | C5 |
| 3N21 | E3 |
| 3N22 | E3 |
| 3N23 | E3 |
| 3N24 | F3 |
| 3N25 | F3 |
| 3N26 | D4 |
| 3N27 | D6 |
| 3N28 | F8 |
| 3N29 | E11 |
| 3N30 | E11 |
| 3N31 | E11 |
| 3N32 | E11 |
| 3N33 | E11 |
| 3N34 | E11 |
| 3N35 | E11 |
| 3N36 | E11 |
| 3N37 | E11 |
| 3N38 | F11 |
| 3N39 | F11 |
| 3N40 | F11 |
| 3N41 | F11 |
| 3N42 | F11 |
| 3N43 | F11 |
| 3N44 | F11 |
| 3N45 | F11 |
| 3N46 | D10 |
| 3N47 | D10 |
| 4N01 | D2 |
| 4N02 | D2 |
| 4N03 | D2 |
| 4N04 | D2 |
| 4N05 | D2 |
| 4N06 | D2 |
| 4N07 | D2 |
| 4N08 | D2 |
| 4N09 | D2 |
| 4N10 | D2 |
| 4N11 | D2 |
| 4N12 | D2 |
| 4N13 | D2 |
| 4N14 | D2 |
| 4N15 | D3 |
| 4N16 | D3 |
| 4N17 | D3 |
| 4N18 | D3 |
| 4N19 | D3 |
| 4N20 | D3 |
| 4N21 | D9 |
| 4N22 | D9 |
| 5N01 | A8 |
| 5N02 | D4 |
| 5N03 | D4 |
| 5N04 | D5 |
| 5N05 | C6 |
| 6N01 | F9 |
| 7N01 | A2 |
| 7N02-1 | A4 |
| 7N02-2 | D7 |
| 7N02-5 | D10 |
| 7N03-1 | C3 |
| 7N03-2 | C2 |
| 7N04 | D5 |
| FN01 | B4 |
| FN02 | B6 |
| FN03 | C5 |
| FN04 | A8 |
| FN05 | B8 |
| FN06 | B8 |
| FN07 | B8 |
| FN08 | B8 |
| FN09 | B8 |
| FN10 | B8 |
| FN11 | D5 |
| FN12 | E5 |
| FN13 | E5 |
| FN14 | F5 |
| FN15 | F5 |
| FN16 | F5 |
| FN17 | G5 |
| FN18 | D9 |
| FN19 | D9 |
| FN20 | F9 |
| FN21 | F11 |
| FN22 | F11 |
| FN23 | F11 |
| FN24 | F12 |
| FN25 | F4 |
| FN26 | D2 |
| FN27 | D2 |
| FN28 | D2 |
| FN29 | D2 |
| FN30 | D2 |
| FN31 | D2 |
| FN32 | D2 |
| FN33 | D3 |
| FN34 | D3 |
| FN35 | D3 |
| IN01 | B3 |
| IN02 | B3 |
| IN03 | B3 |
| IN04 | B3 |
| IN05 | B3 |
| IN06 | C2 |
| IN07 | D4 |
| IN08 | C2 |
| IN09 | C2 |
| IN10 | B3 |
| IN11 | B4 |
| IN12 | C5 |
| IN13 | D5 |
| IN14 | D4 |
| IN15 | D11 |
| IN16 | D11 |
| IN17 | D11 |
| IN18 | D11 |
| IN19 | F9 |

## SSB: EPLD


B21 EPLD
B21
EAGLE INTERFACE
7N02-3
EP1C12F256C8
BANK 2
7N02-6
EP1C12F256C8
POWER
BANK1
BANK2
BANK3
BANK4
VCCIO
VCCINT
GND
GNDA
GNDG
PLL1
PLL2
VCCA
+3V3-IO
+1V5-INT
+1V5-PLL
+3V3SW
FP01
5P01
FP02
7P01
LF15ABDT
IN
OUT
COM
FP03
+1V5
5P02
FP04
5P03
FP05
2P15 100u 16V
2P16 100n
2P17 2u2
FOR MFD ONLY
LVDS_VCC
LVDS_OPT
1P06
TO LCD PANEL (TIMING CONTROL)
NC
0-1453230-3
26"/32" 16X9
23" 15X9
4P01
4P02
YES
LVDS TRANSMITTER
5P04
5P05
5P06
2P31 100n
2P32 100n
2P33 100n
2P34 100n
2P35 100n
7P02
THC63LVDM83R
VCC
LVDS VCC
PLL VCC
RS
PDWN
R/F
CLKIN
TCLK
TA
TB
TC
TD
GND
LVDS GND
PLL GND
3P01 4K7
3P03 47R
B20 (H=NORMAL)
LVDS_PWR_DWN
CLK_OUT
FP06
FP07
FP08
FP09
FP10
FP11
FP12
FP13
FP14
LVDS OUT
7N02-4
EP1C12F256C8
BANK 3
PARITY_OUT
HS_OUT
VS_OUT
DE_OUT
B20
FROM EPLD
B9
FROM SCALER INTERFACE
LVDSCLKp
LVDSCLKn
LVDSAp
LVDSAn
LVDSBp
LVDSBn
LVDSCp
LVDSCn
LVDSDp
LVDSDn
DLW21S
1P01
1P02
1P03
1P04
1P05
FOR UFD ONLY
SDA_DMA_BUS1_DISP
SCL_DMA_BUS1_DISP
4P09
3P05 100R
3P04 100R
4P10
FP15
FP16
FP17
CTRL_DISP2
CTRL_DISP1
(NC) VDISP_2
(NC) VDISP2
(1G50) 1P07
TO PLASMA PANEL (TIMING CONTROL)
FI-WE31P-HFE-E1500
FROM DC-DC CONVERTER
B6
FOR LCD ONLY
F_15430_021.eps
150405
3139 123 6093.1

| | | | | | |
|---|---|---|---|---|---|
| 1P01 E | 2P07 B | 2P21 B | 2P35 D | 4P05 F | 7N02-3 |
| 1P02 E | 2P08 B | 2P22 C | 2P36 D | 4P06 F | 7N02-4 |
| 1P03 F | 2P09 B | 2P23 C | 2P37 E | 4P07 F | 7N02-6 |
| 1P04 F | 2P10 B | 2P24 C | 2P38 E | 4P08 F | 7P01 B |
| 1P05 G | 2P11 B | 2P25 C | 2P39 E | 4P09 D | 7P02 D |
| 1P06 A | 2P12 B | 2P26 C | 2P40 F | 4P10 E | FP01 A |
| 1P07 D | 2P13 B | 2P27 C | 2P41 F | 5P01 A | FP02 A |
| 2P01 B | 2P14 B | 2P28 C | 2P42 F | 5P02 B | FP03 B |
| 2P02 B | 2P15 B | 2P29 C | 2P43 F | 5P03 C | FP04 B |
| 2P03 B | 2P16 B | 2P30 C | 2P44 G | 5P04 D | FP05 C |
| 2P04 B | 2P17 B | 2P31 C | 2P45 G | 5P05 D | FP06 D |
| 2P05 B | 2P18 B | 2P32 D | 3P01 D | 5P06 D | FP07 E |
| 2P06 B | 2P19 B | 2P33 D | 3P03 E | 4P01 F | FP08 E |
| | 2P20 B | 2P34 D | 3P04 D | 4P02 F | |
| | | | 3P05 D | 4P03 F | |
| | | | | 4P04 F | |

# SSB: Diversity Tables B9-B21

## B9 MUX-SYNC INTERFACE

| Item | LC4.3x | LC4.8x | LC4.9x | Description |
|---|---|---|---|---|
| 2A00 | | | V | CER2 0603 X7R 16V 100N COL |
| 2A01 | | | V | CER1 0402 NP0 50V 100P COL |
| 2A02 | | | V | CER1 0402 NP0 50V 100P COL |
| 2A03 | | V | | CER2 0603 Y5V 10V 1U COL |
| 2A12 | | V | V | CER2 0402 X7R 16V 10N COL |
| 2A13 | | V | V | CER2 0402 Y5V 16V 100N COL |
| 3A00 | | | V | RST SM 0402 68R PM5 COL |
| 3A01 | | | V | RST SM 0402 68R PM5 COL |
| 3A02 | V | V | | RST SM 0402 1K PM5 COL |
| 3A06 | | V | | RST SM 0603 10K PM5COL |
| 3A06 | V | | | RST SM 0603 JUMP. 0R05 COL |
| 3A07 | | | V | RST SM 0402 10K PM5 COL |
| 3A07 | | | | RST SM 0402 68R PM5 COL |
| 3A08 | | | V | RST SM 0402 10K PM5 COL |
| 3A10 | | V | V | RST SM 0402 10K PM5 COL |
| 3A11 | | V | V | RST SM 0402 10K PM5 COL |
| 3A13 | | V | V | RST SM 0402 10K PM5 COL |
| 3A14 | | V | V | RST SM 0402 560R PM5 COL |
| 4A03 | V | V | | RST SM 0603 JUMP. 0R05 COL |
| 4A04 | | | V | RST SM 0402 JUMP. 0R05 COL |
| 4A05 | V | | | RST SM 0402 JUMP. 0R05 COL |
| 4A06 | V | | | RST SM 0402 JUMP. 0R05 COL |
| 5A00 | | | V | FXDIND 0805 100MHZ 30R COL R |
| 6A01 | | V | V | DIO REG SM BZX384-C3V9 COL R |
| 7A00 | | | V | IC SM PCA9515ADP (PHSE) R |
| 7A02 | | V | V | TRA SIG SM BC847BW (COL) R |
| 7A03 | | V | V | TRA SIG SM BC847BW (COL) R |

## B13 MUX-SYNC INTERFACE

| ITEM | AP/EU/AP-DVB (with Teletext) | EU-DVB (with Teletext) | NAFTA/LT & China (non-Teletext) | DESCRIPTION |
|---|---|---|---|---|
| 2E00 | V | | V | CER2 0603 X5R 6V3 4U7 PM10 R |
| 2E01 | V | | V | CER2 0603 X5R 6V3 4U7 PM10 R |
| 2E02 | V | | V | CER2 0603 X5R 6V3 4U7 PM10 R |
| 2E04 | V | V | | CER2 0402 X5R 6V3 1U PM20 R |
| 2E05 | V | V | | CER2 0402 X5R 6V3 1U PM20 R |
| 2E06 | V | V | | CER2 0402 X5R 6V3 1U PM20 R |
| 3E06 | V | | V | RST SM 0402 47K PM5 COL |
| 3E07 | V | | V | RST SM 0402 47K PM5 COL |
| 3E08 | V | | V | RST SM 0402 47K PM5 COL |
| 3E13 | V | V | | RST SM 0402 330R PM5 COL |
| 3E14 | V | V | | RST SM 0402 330R PM5 COL |
| 3E15 | V | V | | RST SM 0402 330R PM5 COL |
| 3E16 | V | V | | RST SM 0402 330R PM5 COL |
| 3E17 | V | V | | RST SM 0402 330R PM5 COL |
| 3E18 | V | V | | RST SM 0402 330R PM5 COL |

## B15 ANALOG I/O SCART

| Item | 26/32PF | DVB.T 26/32PF | 37/42PF | DVB.T 37/42PF | Description |
|---|---|---|---|---|---|
| 1G01 | V | V | | | SOC EURO H 21P F BK R-GRND B |
| 1G01 | | | V | V | SOC EURO H 21P F SHD R-GRND Y |
| 1G02 | V | V | | | SOC EURO H 21P F BK R-GRND B |
| 1G02 | | | V | V | SOC EURO H 21P F SHD R-GRND Y |
| 1G03 | | V | | V | CON H 32P F 0.50 SM FPC 0.3 R |
| 2G29 | | V | | V | ELCAP SM 16V 10U PM20 COL R |
| 2G30 | | V | | V | CER2 0603 X7R 16V 100N COL |
| 2G31 | | V | | V | CER2 0603 X7R 16V 100N COL |
| 2G32 | | | | V | CER2 0603 Y5V 25V 100N COL |
| 2G33 | | V | | V | CER2 0603 Y5V 16V 220N COL |
| 2G34 | | V | | V | ELCAP SM 16V 10U PM20 COL R |
| 2G35 | | V | | V | CER2 0603 Y5V 25V 100N COL |
| 2G36 | | V | | V | CER2 0603 Y5V 10V 1U COL |
| 2G37 | | V | | V | RST SM 0603 330R PM5 COL |
| 2G38 | | V | | V | CER2 0603 Y5V 10V 1U COL |
| 2G39 | | V | | V | CER2 0603 Y5V 10V 1U COL |
| 2G40 | | V | | V | RST SM 0603 JUMP. 0R05 COL |
| 2G41 | | V | | V | RST SM 0603 330R PM5 COL |
| 2G43 | | V | | V | CER2 0603 X7R 50V 1N COL |
| 2G45 | | V | | V | CER2 0603 X7R 50V 1N COL |
| 2G46 | | V | | V | CER2 0603 X7R 50V 1N COL |
| 2G63 | | V | | V | CER2 0603 X5R 6V3 2U2 PM10 R |
| 2G64 | | V | | V | CER2 0603 X5R 6V3 2U2 PM10 R |
| 2G65 | | V | | V | CER2 0603 X5R 6V3 4U7 PM10 R |
| 2G65 | | V | | V | CER2 0603 X5R 6V3 4U7 PM10 R |
| 2G66 | | V | | V | CER2 0603 X5R 6V3 4U7 PM10 R |
| 2G66 | | V | | V | CER2 0603 X5R 6V3 4U7 PM10 R |
| 3G63 | | V | | V | RST SM 0603 10K PM5COL |
| 3G64 | | V | | V | RST SM 0603 10K PM5COL |
| 3G65 | | V | | V | RST SM 0603 10K PM5COL |
| 3G66 | | | | V | RST SM 0603 150R PM5 COL |
| 3G67 | | V | | V | RST SM 0603 15K PM5 COL |
| 3G68 | | V | | V | RST SM 0603 15K PM5 COL |
| 3G69 | | V | | V | RST SM 0603 47K PM5 COL |
| 3G70 | | V | | V | RST SM 0603 47K PM5 COL |
| 3G71 | | V | | V | RST SM 0603 560R PM5 COL |
| 3G72 | | V | | V | RST SM 0603 10K PM5COL |
| 3G73 | | V | | V | RST SM 0603 47K PM5 COL |
| 3G75 | | V | | V | RST SM 0603 100R PM5 COL |
| 3G76 | | V | | V | RST SM 0603 100R PM5 COL |
| 3G77 | | V | | V | RST SM 0603 47K PM5 COL |
| 3G79 | | V | | V | RST SM 0603 47K PM5 COL |
| 3G81 | | V | | V | RST SM 0603 47K PM5 COL |
| 3G83 | | V | | V | RST SM 0603 100R PM5 COL |
| 3G84 | | V | | V | RST SM 0603 100R PM5 COL |
| 3G86 | | V | | V | RST SM 0603 47K PM5 COL |
| 3G88 | | V | | V | RST SM 0603 75R PM5 COL |
| 3G89 | | V | | V | RST SM 0603 47K PM5 COL |
| 3G92 | | V | | V | RST SM 0603 47K PM5 COL |
| 3G93 | | V | | V | RST SM 0603 47K PM5 COL |
| 3G94 | | V | | V | RST SM 0603 47K PM5 COL |
| 3G95 | | V | | V | RST SM 0603 47K PM5 COL |
| 4G09 | | V | | V | RST SM 0603 JUMP. 0R05 COL |
| 4G11 | V | | V | | RST SM 0603 JUMP. 0R05 COL |
| 4G12 | V | | V | | RST SM 0603 JUMP. 0R05 COL |
| 4G13 | V | | V | | RST SM 0603 JUMP. 0R05 COL |
| 4G14 | V | | V | | RST SM 0603 JUMP. 0R05 COL |
| 4G15 | V | | V | | RST SM 0603 JUMP. 0R05 COL |
| 4G16 | V | | V | | RST SM 0603 JUMP. 0R05 COL |
| 4G17 | V | | V | | RST SM 0603 JUMP. 0R05 COL |
| 4G18 | V | | V | | RST SM 0603 JUMP. 0R05 COL |
| 4G19 | V | | V | | RST SM 0603 JUMP. 0R05 COL |
| 4G22 | | V | | V | RST SM 0603 JUMP. 0R05 COL |
| 5G01 | | V | | V | FXDIND 0603 100MHZ 120R COL R |
| 6G02 | | V | | V | DIO SIG SM BAS316 (COL) R |
| 7G07 | | V | | V | IC SM 74HC4053D (PHSE) R |
| 7G08 | | V | | V | TRA SIG SM BC847B (COL) R |
| 7G09 | | V | | V | IC SM ADG734BRUZ (ANA0) R |

## B16 SIDE CONNECTORS

| Item | LC4.3x - CINCH | LC4.3E - SCART | LC4.9x - PDP | LC4.8x - LCD | Description |
|---|---|---|---|---|---|
| 1J00 | | | V | V | CON V 10P M 2.00 PH B |
| 1J01 | | | V | V | CON V 11P M 2.00 PH B |
| 1J02 | V | V | | | CON V 12P M 2.00 PH B |
| 1J03 | V | V | | | CON V 3P M 2.00 PH B |
| 1J07 | | | V | V | FUSE SM T 3A 125V UL R |
| 1J08 | | | V | V | FUSE SM F 630MA 50V UL R |
| 2J31 | | | V | V | CER1 0402 NP0 50V 100P COL |
| 3J03 | V | V | | V | RST SM 0402 68R PM5 COL |
| 3J04 | V | V | | V | RST SM 0402 68R PM5 COL |
| 4J01 | | | V | V | RST SM 0402 JUMP. 0R05 COL |
| 5J04 | | | V | V | IND FXD 1206 EMI 100MHZ 120R R |

## B17 SIDE CONNECTORS

| Item | LC4.3x - ME5 styling | LC4.3x - Arch Styling | LC4.8x - LCD | LC4.9x - PDP | Description |
|---|---|---|---|---|---|
| 1K00 | V | | V | V | CON V 6P M 2.00 PH B |
| 1K01 | V | | | | CON V 12P M 2.00 PH B |
| 1K03 | | V | | | CON V 20P F 1.25 FFC 0.3 B |
| 1K04 | | | V | V | CON V 11P M 2.00 PH B |
| 2K15 | V | V | | | CER1 0402 NP0 50V 100P COL |
| 3K08 | V | V | | | RST SM 0402 68R PM5 COL |
| 4K02 | | | V | V | RST SM 0603 JUMP. 0R05 COL |
| 4K06 | | V | | | RST SM 0402 JUMP. 0R05 COL |
| 5K01 | V | V | | V | FXDIND SM 0603 1U PM10 COL R |

## B18 ADC

| Item | non-DVB sets with 3D Comb Filter | DVB sets with 3D Comb Filter | Description |
|---|---|---|---|
| 3L38 | | V | RST SM 0402 JUMP. 0R05 COL |
| 4L05 | | V | RST SM 0402 JUMP. 0R05 COL |
| 5L04 | | V | RST SM 0603 JUMP. 0R05 COL |

## B20 & B21 PIXEL PLUS

| Item | LC4.3 non PIXEL+ | LC4.3 with PIXEL+ | 42PF7320/28 | LC4.8/LC4.9 non PIXEL+ | LC4.8/LC4.9 with PIXEL+ | Description |
|---|---|---|---|---|---|---|
| 1N02 | | V | V | | V | CON V 4P M 2.00 SM PH R |
| 1N05 | | V | V | | V | OSC XTL SM 14M31818 15P OC R |
| 1P06 | V | V | | | | CON V 30P M 1.25 SM 1453230 R |
| 1P07 | | | V | V | V | CON H 31P F 1.25 SM FI-WE R |
| 2N01 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2N02 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2N03 | | V | V | | V | CER2 0402 X5R 6V3 1U PM20 R |
| 2N04 | | V | V | | V | CER2 0402 X7R 50V 1N COL |
| 2N05 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2N06 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2N07 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2N08 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2N09 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2N10 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2N11 | | V | V | | V | CER1 0402 NP0 50V 100P COL |
| 2N12 | | V | V | | V | CER1 0402 NP0 50V 100P COL |
| 2N13 | | V | V | | V | CER1 0402 NP0 50V 100P COL |
| 2N14 | | V | V | | V | CER1 0402 NP0 50V 100P COL |
| 2N15 | | V | V | | V | CER1 0402 NP0 50V 100P COL |
| 2N16 | | V | V | | V | CER1 0402 NP0 50V 100P COL |
| 2P01 | | V | V | | V | CER2 0603 X5R 6V3 2U2 PM10 R |
| 2P02 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P03 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P04 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P05 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P06 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P07 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P08 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P09 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P10 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P11 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P12 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P13 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P14 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P15 | | V | V | | V | ELCAP SM 16V 100U PM20 COL R |
| 2P16 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P17 | | V | V | | V | CER2 0603 X5R 6V3 2U2 PM10 R |
| 2P18 | | V | V | | V | CER2 0603 X5R 6V3 2U2 PM10 R |
| 2P19 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P20 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P21 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P22 | | V | V | | V | CER2 0603 X5R 6V3 2U2 PM10 R |
| 2P23 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P24 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P25 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P26 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P27 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P28 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P29 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P30 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P31 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P32 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P33 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P34 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 2P35 | | V | V | | V | CER2 0402 Y5V 16V 100N COL |
| 3N01 | | V | V | | V | RST SM 0402 10K PM5 COL |
| 3N02 | | V | V | | V | RST SM 0402 10K PM5 COL |
| 3N03 | | V | V | | V | RST SM 0402 10K PM5 COL |
| 3N04 | | V | V | | V | RST SM 0402 10K PM5 COL |
| 3N05 | | V | V | | V | RST SM 0402 10K PM5 COL |
| 3N06 | | V | V | | V | RST SM 0402 10K PM5 COL |
| 3N07 | | V | V | | V | RST SM 0603 33K PM5 COL |
| 3N08 | | V | V | | V | RST SM 0402 10K PM5 COL |
| 3N09 | | V | V | | V | RST SM 0402 1K PM5 COL |
| 3N10 | | V | V | | V | RST SM 0402 33K PM5 COL |
| 3N11 | | V | V | | V | RST SM 0402 47R PM5 COL |
| 3N12 | | V | V | | V | RST SM 0402 10K PM5 COL |
| 3N13 | | V | V | | V | RST SM 0402 10K PM5 COL |
| 3N14 | | V | V | | V | RST SM 0402 10K PM5 COL |
| 3N15 | | V | V | | V | RST SM 0402 47R PM5 COL |
| 3N16 | | V | V | | V | RST SM 0402 47R PM5 COL |
| 3N17 | | V | V | | V | RST SM 0402 47R PM5 COL |
| 3N18 | | V | V | | V | RST SM 0402 47R PM5 COL |
| 3N19 | | V | V | | V | RST SM 0402 10K PM5 COL |
| 3N20 | | V | V | | V | RST SM 0402 47R PM5 COL |
| 3N21 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N22 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N23 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N24 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N25 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N26 | | V | V | | V | RST SM 0402 4K7 PM5 COL |
| 3N27 | | V | V | | V | RST SM 0402 47R PM5 COL |
| 3N28 | | V | V | | V | RST SM 0603 180R PM5 COL |
| 3N29 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N30 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N31 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N32 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N33 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N34 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N35 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N46 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3N47 | | V | V | | V | RST SM 0402 100R PM5 COL |
| 3P01 | | V | V | | V | RST SM 0402 4K7 PM5 COL |
| 3P03 | | V | V | | V | RST SM 0402 47R PM5 COL |
| 3P04 | | | | V | | RST SM 0402 100R PM5 COL |
| 3P04 | | | | | V | RST SM 0402 JUMP. 0R05 COL |
| 3P05 | | | | V | | RST SM 0402 100R PM5 COL |
| 3P05 | | | | | V | RST SM 0402 JUMP. 0R05 COL |
| 4N01 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N02 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N03 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N04 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N05 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N06 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N07 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N08 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N09 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N10 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N11 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N12 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N13 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N14 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N15 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N16 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N17 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N18 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N19 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N20 | V | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 4N21 | | V | V | | V | RST SM 0402 JUMP. 0R05 COL |
| 4N22 | | V | V | | V | RST SM 0402 JUMP. 0R05 COL |
| 4P01 | | | | | | RST SM 0402 JUMP. 0R05 COL |
| 4P02 | | | | | | RST SM 0402 JUMP. 0R05 COL |
| 4P07 | | | | V | | RST SM 0402 JUMP. 0R05 COL |
| 5N01 | | V | V | | V | FXDIND 0805 100MHZ 30R COL R |
| 5N02 | | V | V | | V | FXDIND 0805 100MHZ 30R COL R |
| 5N03 | | V | V | | V | FXDIND 0805 100MHZ 30R COL R |
| 5N04 | | V | V | | V | FXDIND 0805 100MHZ 30R COL R |
| 5N05 | | V | V | | V | FXDIND 0805 100MHZ 30R COL R |
| 5P01 | | V | V | | V | FXDIND 0805 100MHZ 30R COL R |
| 5P02 | | V | V | | V | FXDIND 0805 100MHZ 30R COL R |
| 5P03 | | V | V | | V | FXDIND 0805 100MHZ 30R COL R |
| 5P04 | | V | V | | V | FXDIND 0805 100MHZ 30R COL R |
| 5P05 | | V | V | | V | FXDIND 0805 100MHZ 30R COL R |
| 5P06 | | V | V | | V | FXDIND 0805 100MHZ 30R COL R |
| 6N01 | | V | V | | V | LED VS SM TLMG3100 (VISH) R |
| 7N01 | | V | V | | V | IC SM EPCS4SI8N (ALT0) R |
| 7N02 | | V | V | | V | IC SM EP1C12F256C8N (ALT0) Y |
| 7N03 | | V | V | | V | TRA SIG SM BC847BS (PHSE) R |
| 7N04 | | V | V | | V | IC SM THC63LVDF84B (THIN) R |
| 7P01 | | V | V | | V | IC SM LF15ABDT (ST00) R |
| 7P02 | | V | V | | V | IC SM THC63LVDM83R (THIN) R |

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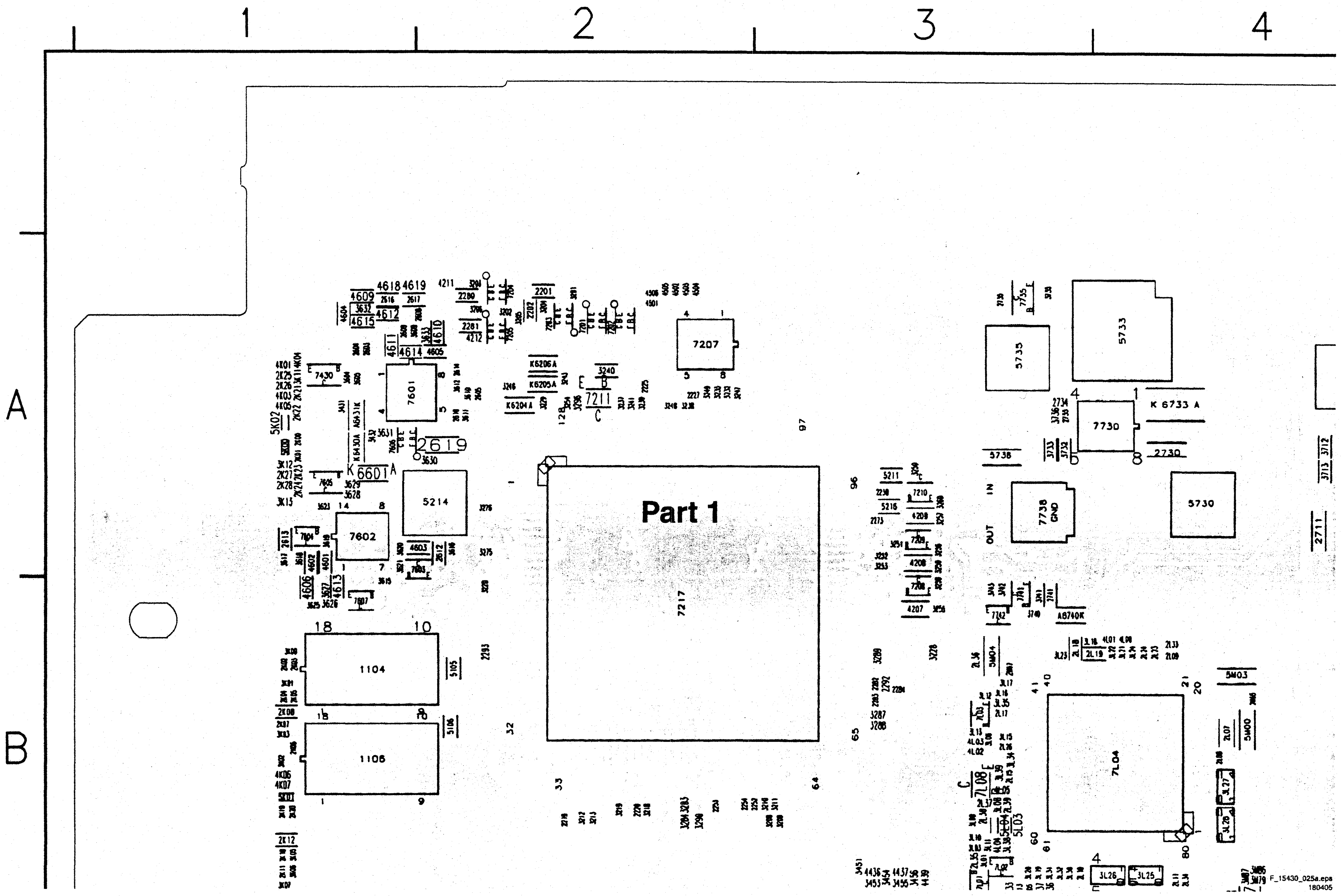
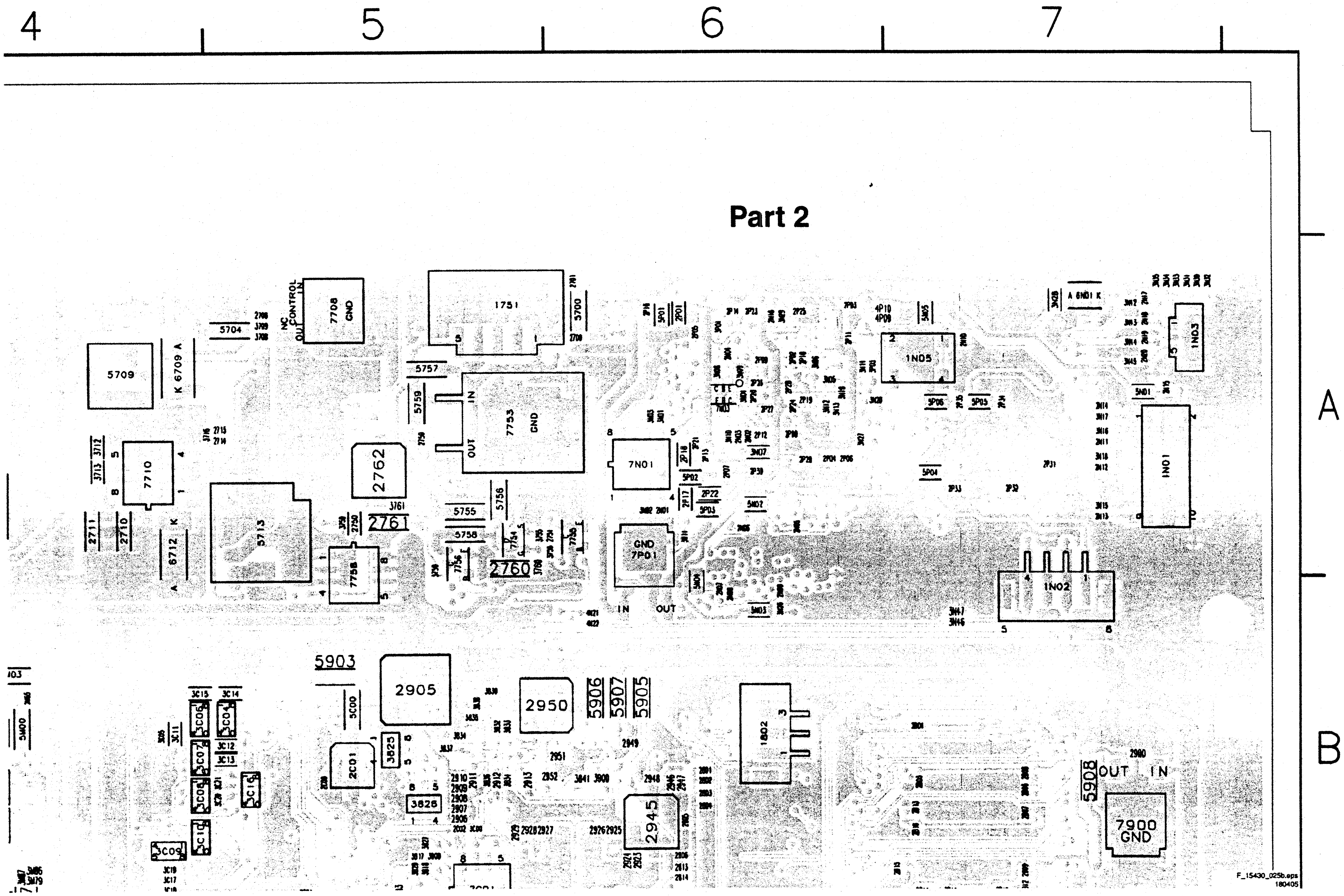
## Layout Small Signal Board (Top Side Part 1)


1
2
3
4
A
B
Part 1
7217
7207
5733
5735
7730
K 6733 A
2730
5738
7738
GND
IN
OUT
5730
2711
7601
7602
5214
K 6601 A
2619
7430
4618
4619
4609
4612
4615
4614
4611
4610
K6206A
K6205A
K6204A
7211
3240
2201
1104
1106
18
10
9
7L04
5M03
5M00
3L26
3L25
5211
5216
4209
4208
4207
7L08
5L03
F_15430_025a.eps
180405

## Layout Small Signal Board (Top Side Part 2)


4
5
6
7
A
B
Part 2
1751
5700
7708
GND
NC
CONTROL
OUT
IN
5704
5709
K 6709 A
5757
5759
7753
IN
OUT
GND
7N01
GND
7P01
1N05
1N03
1N01
1N02
5P06
5P03
5P04
5P02
5N02
5N03
5N01
7710
2762
2761
2760
3761
5755
5758
5756
5713
7758
2711
2710
K 6712 A
3713
3712
5903
2905
2950
5906
5907
5905
1802
3C00
2C01
3825
3828
3C15
3C14
3C06
3C04
3C07
3C12
3C13
3C08
3C16
3C10
3C09
5N00
2945
5908
OUT
IN
7900
GND
2951
2952
2949

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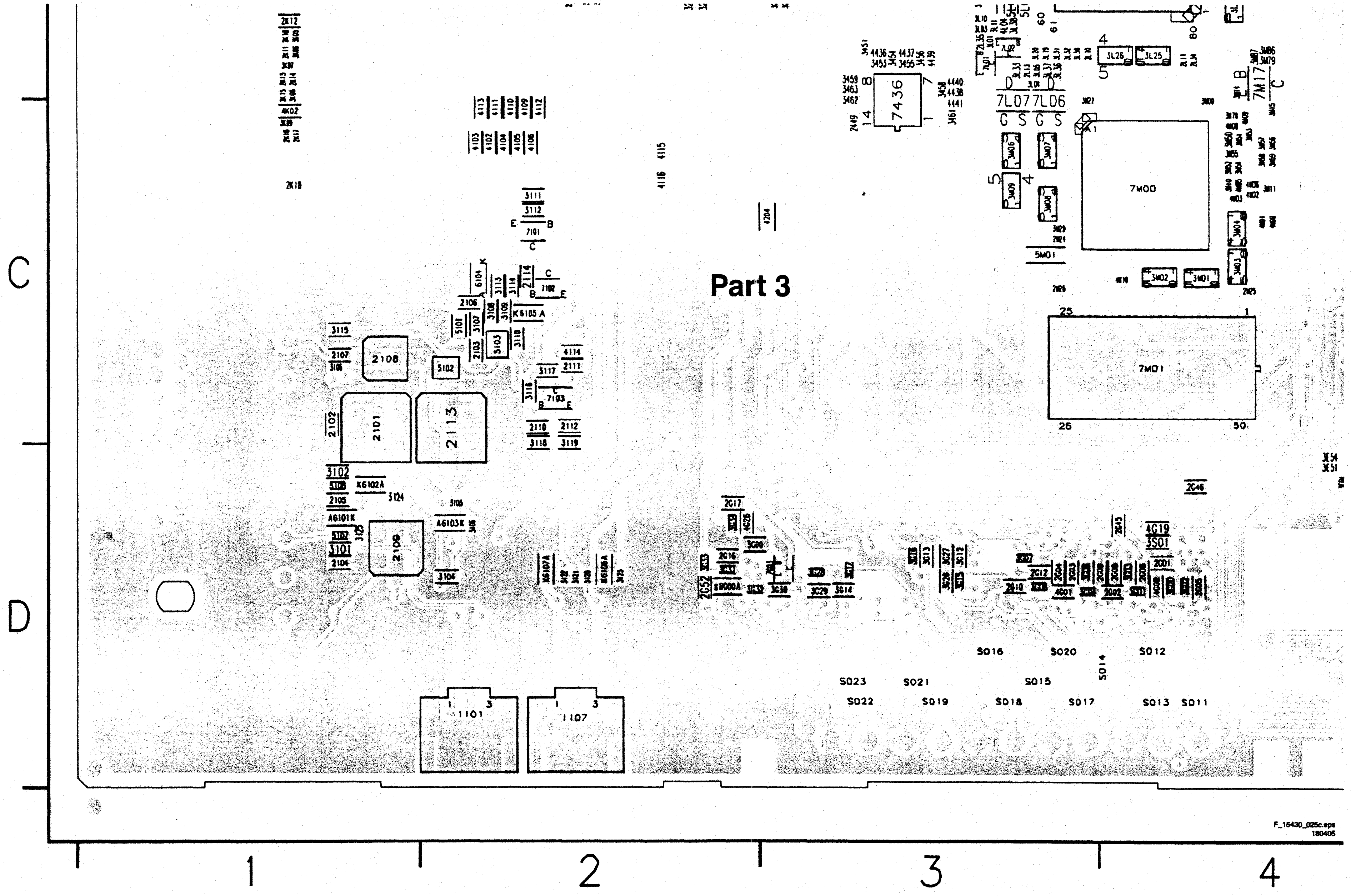
180405

## Layout Small Signal Board (Top Side Part 3)


C
D
1
2
3
4
Part 3
2K12
4K02
2K18
4113
4111
4110
4109
4112
4103
4102
4104
4105
4106
4116
4115
3111
3112
7101
E
B
C
4204
7436
8
7
14
1
3459
3463
3462
4436
3453
4437
3456
4440
4438
4441
7L07
7L06
G S G S
D D
3L26
3L25
7M17
B
C
7M00
3M06
3M07
3M09
3M08
5
4
5M01
3M04
3M03
3M02
3M01
25
1
7M01
26
50
6104
3113
3114
2114
7102
2106
K6105 A
3101
3107
3108
3109
3110
5101
2103
5103
3115
2107
2108
5102
3106
4114
2111
3117
3116
7103
2102
2101
2113
2110
2112
3118
3119
3102
3105
K6102A
2105
3124
A6101K
A6103K
3103
3101
2104
2109
3104
2G17
2G16
2G52
3G30
3C29
3G14
2G46
4G19
3S01
2G01
2G10
2G02
S016
S020
S012
S014
S023
S021
S015
S022
S019
S018
S017
S013
S011
1101
1107
1
3

F_15430_025c.eps
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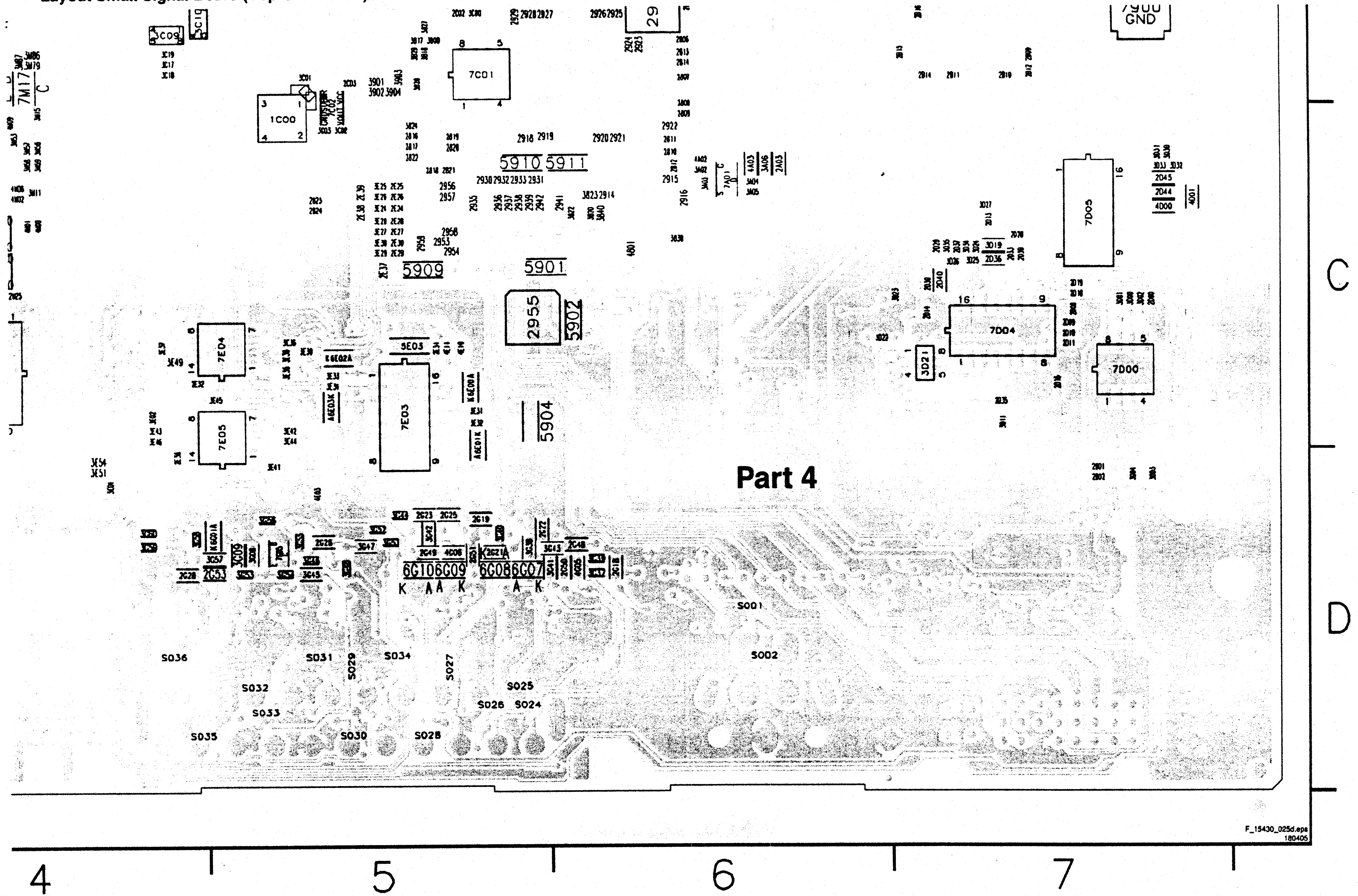
## Layout Small Signal Board (Top Side Part 4)


Part 4
7900
GND
3C09
1C00
7C01
7M17
5910
5911
5909
5901
2955
5902
5904
7E04
7E05
7E03
5E03
6E02A
6E00A
6E01K
6E03K
6G10
6G09
6G08
6C07
K
A
A
K
A
K
7D05
7D04
7D00
3D21
2D45
2D44
4D00
4D01
S001
S002
S024
S025
S026
S027
S028
S029
S030
S031
S032
S033
S034
S035
S036
C
D
4
5
6
7

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## Layout Small Signal Board (Bottom Side Overview)

| | |
|---|---|
| 1102 | C6 |
| 1103 | B6 |
| 1105 | B7 |
| 1201 | B6 |
| 1202 | A6 |
| 1440 | B5 |
| 1441 | A5 |
| 1801 | C3 |
| 1F00 | D1 |
| 1F01 | D2 |
| 1G01 | D5 |
| 1G02 | D3 |
| 1G03 | D4 |
| 1J00 | A5 |
| 1J01 | A3 |
| 1J02 | A4 |
| 1J03 | A6 |
| 1J04 | A6 |
| 1J05 | A1 |
| 1J06 | A3 |
| 1J07 | A4 |
| 1J08 | A3 |
| 1K00 | A7 |
| 1K01 | B7 |
| 1K02 | C7 |
| 1K03 | C7 |
| 1K04 | B7 |
| 1P01 | A1 |
| 1P02 | A1 |
| 1P03 | A1 |
| 1P04 | A1 |
| 1P05 | A1 |
| 1P06 | A1 |
| 1P07 | A1 |
| 2203 | A5 |
| 2205 | B6 |
| 2206 | B6 |
| 2207 | B6 |
| 2208 | A6 |
| 2209 | A6 |
| 2210 | B5 |
| 2211 | B6 |
| 2214 | B6 |
| 2216 | B6 |
| 2218 | B5 |
| 2221 | B6 |
| 2223 | A5 |
| 2224 | A5 |
| 2226 | B6 |
| 2228 | B6 |
| 2229 | B6 |
| 2230 | B6 |
| 2231 | A6 |
| 2232 | B5 |
| 2233 | B5 |
| 2234 | A6 |
| 2235 | A6 |
| 2236 | A5 |
| 2237 | A5 |
| 2238 | A6 |
| 2240 | A5 |
| 2241 | A5 |
| 2242 | B6 |
| 2243 | B6 |
| 2244 | B5 |
| 2245 | B5 |
| 2246 | B5 |
| 2247 | B6 |
| 2248 | B6 |
| 2249 | B6 |
| 2250 | A5 |
| 2251 | B5 |
| 2255 | B6 |
| 2256 | B6 |
| 2257 | B6 |
| 2258 | A6 |
| 2259 | B6 |
| 2260 | A6 |
| 2262 | B6 |
| 2263 | B6 |
| 2264 | B6 |
| 2265 | B6 |
| 2266 | B6 |
| 2267 | B6 |
| 2268 | B6 |
| 2269 | A6 |
| 2270 | A6 |
| 2271 | A5 |
| 2272 | A5 |
| 2274 | B6 |
| 2275 | A6 |
| 2276 | A6 |
| 2277 | B5 |
| 2278 | B5 |
| 2279 | B5 |
| 2285 | A6 |
| 2286 | B6 |
| 2287 | B6 |
| 2288 | B5 |
| 2290 | C5 |
| 2291 | B5 |
| 2447 | A5 |
| 2448 | A5 |
| 2501 | A5 |
| 2502 | A6 |
| 2503 | A5 |
| 2504 | A6 |
| 2505 | A6 |
| 2506 | A6 |
| 2507 | A6 |
| 2508 | A5 |
| 2509 | A5 |
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| 2615 | A7 |
| 2618 | A6 |
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| 2706 | A4 |
| 2709 | A3 |
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| 2716 | A3 |
| 2731 | A4 |
| 2736 | A5 |
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| 2739 | A5 |
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| 2753 | A3 |
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| 2758 | A3 |
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| 2A01 | B2 |
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| 2A13 | B3 |
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| 2B02 | B1 |
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| 2B18 | B1 |
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| 2D04 | C1 |
| 2D05 | C1 |
| 2D06 | D1 |
| 2D07 | C1 |
| 2D12 | C1 |
| 2D15 | C1 |
| 2D17 | C1 |
| 2D20 | D1 |
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| 2D22 | C1 |
| 2D23 | D1 |
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| 2D25 | C1 |
| 2D26 | C1 |
| 2D27 | C1 |
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| 2D32 | C1 |
| 2D34 | D2 |
| 2D38 | C1 |
| 2D41 | C1 |
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| 2E01 | D4 |
| 2E02 | D4 |
| 2E03 | D3 |
| 2E04 | D3 |
| 2E05 | D3 |
| 2E06 | C3 |
| 2E07 | D3 |
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| 2E09 | C3 |
| 2E10 | D3 |
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| 2E19 | C3 |
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| 2E21 | C3 |
| 2E22 | C4 |
| 2E23 | C4 |
| 2E33 | C4 |
| 2E34 | D4 |
| 2E35 | C4 |
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| 2F10 | D1 |
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| 2G43 | D5 |
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| 2G64 | D3 |
| 2G65 | D3 |
| 2G66 | D3 |
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| 2J04 | A1 |
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| 2J06 | A1 |
| 2J07 | A1 |
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| 2J17 | A5 |
| 2J18 | A5 |
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| 2J28 | A6 |
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| 2J30 | A4 |
| 2J31 | A3 |
| 2J33 | A5 |
| 2J34 | A5 |
| 2J35 | A5 |
| 2J36 | A6 |
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| 2L03 | B5 |
| 2L04 | B5 |
| 2L05 | B5 |
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| 2M02 | C4 |
| 2M03 | C4 |
| 2M04 | C4 |
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| 2M15 | C4 |
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| 2M17 | C4 |
| 2M18 | C4 |
| 2M19 | C4 |
| 2M20 | B4 |
| 2M21 | B4 |
| 2M22 | B4 |
| 2M23 | B4 |
| 2M27 | C4 |
| 2M28 | C4 |
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| 2M30 | C4 |
| 2M31 | C4 |
| 2M32 | C4 |
| 2M33 | C4 |
| 2M56 | C4 |
| 2M60 | C5 |
| 2M61 | C4 |
| 2M62 | C5 |
| 2M66 | B4 |
| 2M68 | B5 |
| 2P15 | A2 |
| 2P36 | A1 |
| 2P37 | A1 |
| 2P38 | A1 |
| 2P39 | A1 |
| 2P40 | A1 |
| 2P41 | A1 |
| 2P42 | A1 |
| 2P43 | A1 |
| 2P44 | A1 |
| 2P45 | A1 |
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| 3207 | B6 |
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| 3216 | B5 |
| 3217 | B5 |
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| 3223 | A5 |
| 3224 | A5 |
| 3225 | A5 |
| 3226 | A5 |
| 3227 | A5 |
| 3230 | A6 |
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| 3234 | A6 |
| 3235 | A6 |
| 3236 | A6 |
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| 3244 | B5 |
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| 3268 | B5 |
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| 3752 | A3 |
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| 3A01 | B2 |
| 3A07 | B2 |
| 3A08 | B2 |
| 3A10 | B4 |
| 3A11 | B3 |
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| 3A14 | B3 |
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| 3D05 | C1 |
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| 3D07 | C1 |
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| 3D09 | C2 |
| 3D10 | C1 |
| 3D12 | C1 |
| 3D15 | C2 |
| 3D16 | C2 |
| 3D17 | C2 |
| 3D18 | C2 |
| 3D20 | C2 |
| 3E00 | C4 |
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| 3E15 | C3 |
| 3E16 | D3 |
| 3E17 | C3 |
| 3E18 | C3 |
| 3E19 | D3 |
| 3E20 | D3 |
| 3E21 | C3 |
| 3E22 | C3 |
| 3E23 | C3 |
| 3E50 | C4 |
| 3E52 | C4 |
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| 3E55 | C4 |
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| 3F09 | D1 |
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| 3F19 | D1 |
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| 3F26 | D2 |
| 3F27 | D2 |
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| 3F29 | D1 |
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| 3J04 | A5 |
| 3J05 | A5 |
| 3J06 | A5 |
| 3L07 | B5 |
| 3L09 | B5 |
| 3M12 | C4 |
| 3M13 | C4 |
| 3M16 | C4 |
| 3M26 | C4 |
| 3M28 | C5 |
| 3M68 | C5 |
| 3M69 | C5 |
| 3M71 | C5 |
| 3M88 | C4 |
| 3M89 | C5 |
| 3M90 | C4 |
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| 3N38 | A2 |
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| 3P04 | A1 |
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| 3S00 | D2 |
| 3S03 | D2 |
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| 4203 | B5 |
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| 4206 | C5 |
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| 4508 | A6 |
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| 4511 | A6 |
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| 4513 | A6 |
| 4514 | A6 |
| 4616 | A7 |
| 4617 | A7 |
| 4620 | A7 |
| 4621 | A7 |
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| 4A00 | B3 |
| 4A01 | B3 |
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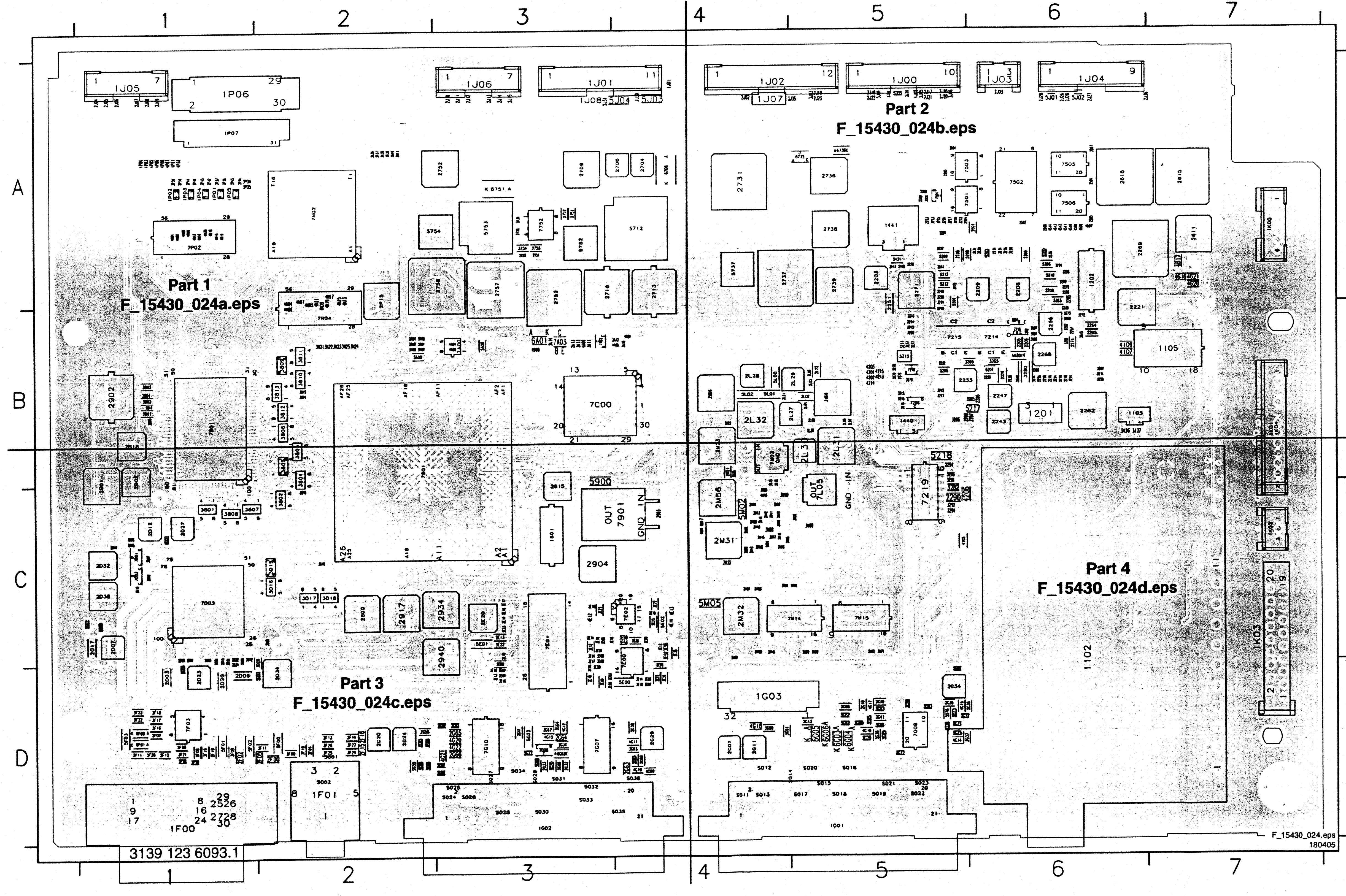
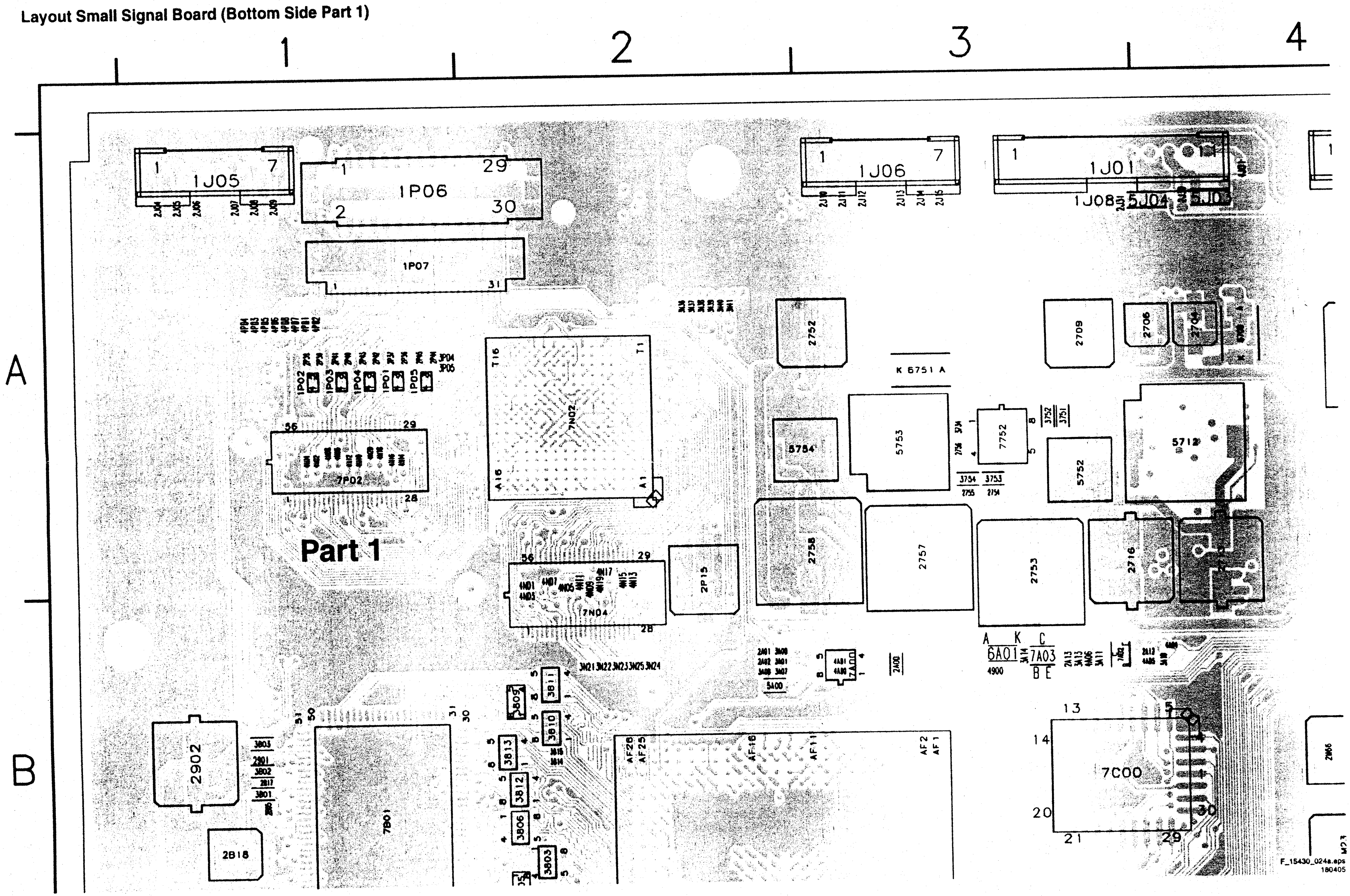
| 4E13 | C4 |
| 4E14 | C4 |
| 4G09 | D4 |
| 4G10 | D4 |
| 4G11 | D4 |
| 4G12 | D3 |
| 4G13 | D3 |
| 4G14 | D5 |
| 4G15 | D5 |
| 4G16 | D5 |
| 4G17 | D5 |
| 4G18 | D4 |
| 4G20 | D3 |
| 4G21 | D3 |
| 4G22 | D3 |
| 4J01 | A4 |
| 4J02 | A5 |
| 4M04 | C4 |
| 4M16 | C4 |
| 4M17 | C4 |
| 4N01 | A2 |
| 4N02 | A1 |
| 4N03 | B2 |
| 4N04 | A1 |
| 4N05 | A2 |
| 4N06 | A1 |
| 4N07 | A2 |
| 4N08 | A1 |
| 4N09 | A2 |
| 4N10 | A1 |
| 4N11 | A2 |
| 4N12 | A1 |
| 4N13 | A2 |
| 4N14 | A1 |
| 4N15 | A2 |
| 4N16 | A1 |
| 4N17 | A2 |
| 4N18 | A1 |
| 4N19 | A2 |
| 4N20 | A1 |
| 4P01 | A1 |
| 4P02 | A1 |
| 4P03 | A1 |
| 4P04 | A1 |
| 4P05 | A1 |
| 4P06 | A1 |
| 4P07 | A1 |
| 4P08 | A1 |
| 5201 | B6 |
| 5202 | B5 |
| 5203 | A6 |
| 5204 | A6 |
| 5205 | B5 |
| 5206 | A6 |
| 5207 | A6 |
| 5208 | A6 |
| 5209 | A5 |
| 5210 | A6 |
| 5212 | A5 |
| 5213 | A5 |
| 5215 | B5 |
| 5217 | B6 |
| 5218 | B5 |
| 5431 | A5 |
| 5501 | A6 |
| 5712 | A4 |
| 5737 | A4 |
| 5752 | A3 |
| 5753 | A3 |
| 5754 | A3 |
| 5900 | B3 |
| 5A00 | B2 |
| 5D00 | C1 |
| 5D01 | C1 |
| 5D02 | C1 |
| 5D03 | D2 |
| 5D04 | D1 |
| 5E00 | D4 |
| 5E01 | C3 |
| 5E02 | C4 |
| 5F00 | D2 |
| 5F01 | D1 |
| 5F02 | D1 |
| 5F03 | D1 |
| 5G01 | D5 |
| 5G02 | D3 |
| 5J01 | A6 |
| 5J02 | A6 |
| 5J03 | A4 |
| 5J04 | A4 |
| 5J05 | A5 |
| 5L00 | B4 |
| 5L01 | B4 |
| 5L02 | B4 |
| 5M02 | C4 |
| 5M05 | C4 |
| 6201 | B6 |
| 6708 | A4 |
| 6735 | A5 |
| 6736 | A5 |
| 6751 | A3 |
| 6A01 | B3 |
| 6F00 | D1 |
| 6F01 | D1 |
| 6G02 | D3 |
| 6G03 | D5 |
| 6G04 | D5 |
| 6G05 | D5 |
| 6G06 | D5 |
| 7206 | B5 |
| 7214 | B6 |
| 7215 | B5 |
| 7216 | B6 |
| 7218 | B5 |
| 7219 | C5 |
| 7501 | A6 |
| 7502 | A6 |
| 7503 | A6 |
| 7504 | A5 |
| 7505 | A6 |
| 7506 | A6 |
| 7752 | A3 |
| 7801 | B2 |
| 7901 | C4 |
| 7A00 | B3 |
| 7A02 | B3 |
| 7A03 | B3 |
| 7B01 | B1 |
| 7C00 | B3 |
| 7D01 | C1 |
| 7D02 | C1 |
| 7D03 | C1 |
| 7E00 | C4 |
| 7E01 | C3 |
| 7E02 | C4 |
| 7F03 | D1 |
| 7G07 | D3 |
| 7G08 | D3 |
| 7G09 | D5 |
| 7G10 | D3 |
| 7L05 | C5 |
| 7M03 | B4 |
| 7M14 | C5 |
| 7M15 | C5 |
| 7N02 | A2 |
| 7N04 | B2 |
| 7P02 | A1 |



## Layout Small Signal Board (Bottom Side Part 1)


1
2
3
4
A
B
1J05
1P06
1P07
1J06
1J01
1J08
5J04
5J03
7P02
7N02
7N04
2P15
2752
2709
2706
2704
K 6751 A
5753
7752
5752
5712
5754
2758
2757
2753
2716
6A01
7A03
4900
5400
2902
2B18
7B01
3805
3811
3810
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3806
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7C00
Part 1
F_15430_024a.eps
180405

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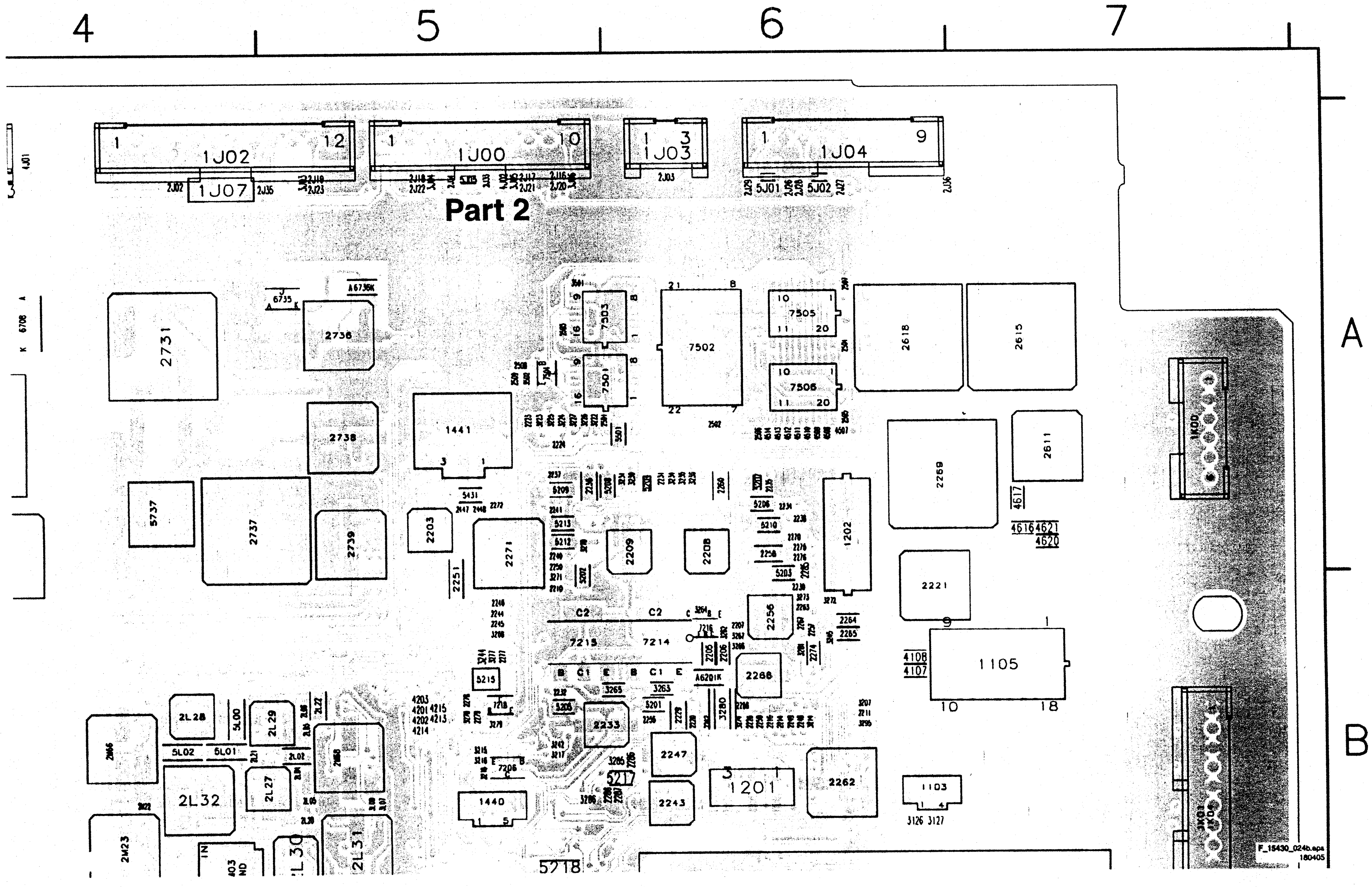
## Layout Small Signal Board (Bottom Side Part 2)


4
5
6
7
A
B
1J02
1J07
1J00
1J03
1J04
5J01
5J02
Part 2
2731
2736
2738
2737
2739
5737
1441
2203
2271
2251
2209
2208
7503
7501
7502
7505
7506
2618
2615
2611
2269
1202
2221
1105
2256
2286
2233
2247
2243
1201
2262
1103
1440
5218
2L28
2L29
2L27
2L32
2L31
2L30
2M23
7214
7215
1K00
1K01
F_15430_024b.eps
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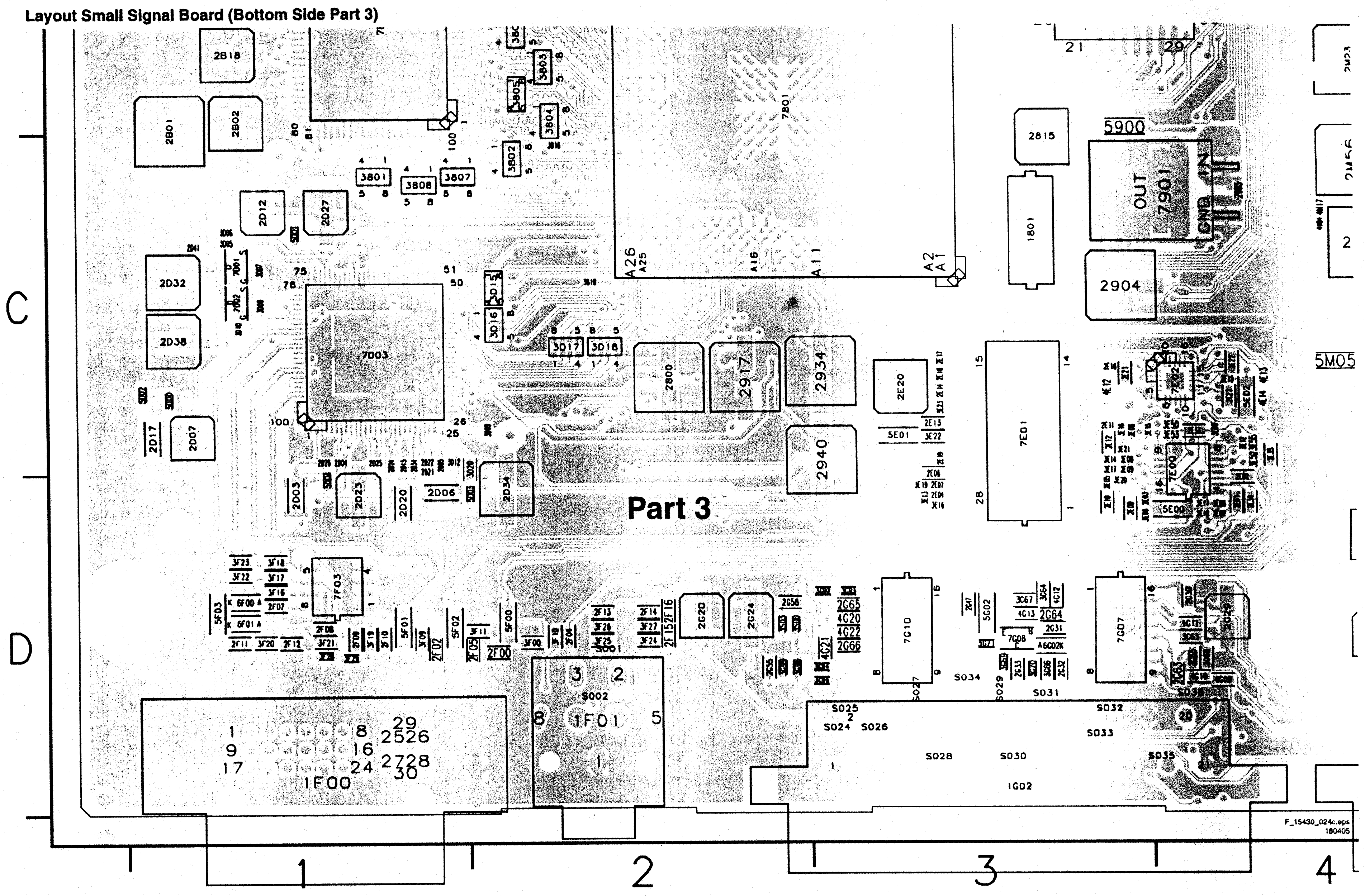
## Layout Small Signal Board (Bottom Side Part 3)


Part 3
C
D
1
2
3
4
2B18
2B01
2B02
3801
3808
3807
3802
3804
3805
3803
7B01
2D12
2D27
2D32
2D38
7D03
2D17
2D07
2D03
2D23
2D20
2D06
2D34
3D15
3D16
3D17
3D18
2800
2917
2934
2940
2E20
5E01
7E01
2815
1801
5900
OUT
7901
GND
IN
2904
5M05
7F03
2F02
2F00
3001
2F15
2F16
2G20
2G24
2G56
2G65
4G20
4G22
2G66
4G21
7G10
5G02
7G08
2G64
7G07
1F00
1F01
S002
S025
S024
S026
S027
S028
S029
S030
S031
S032
S033
S034
S035
1G02
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A25
A16
A11
A2
A1
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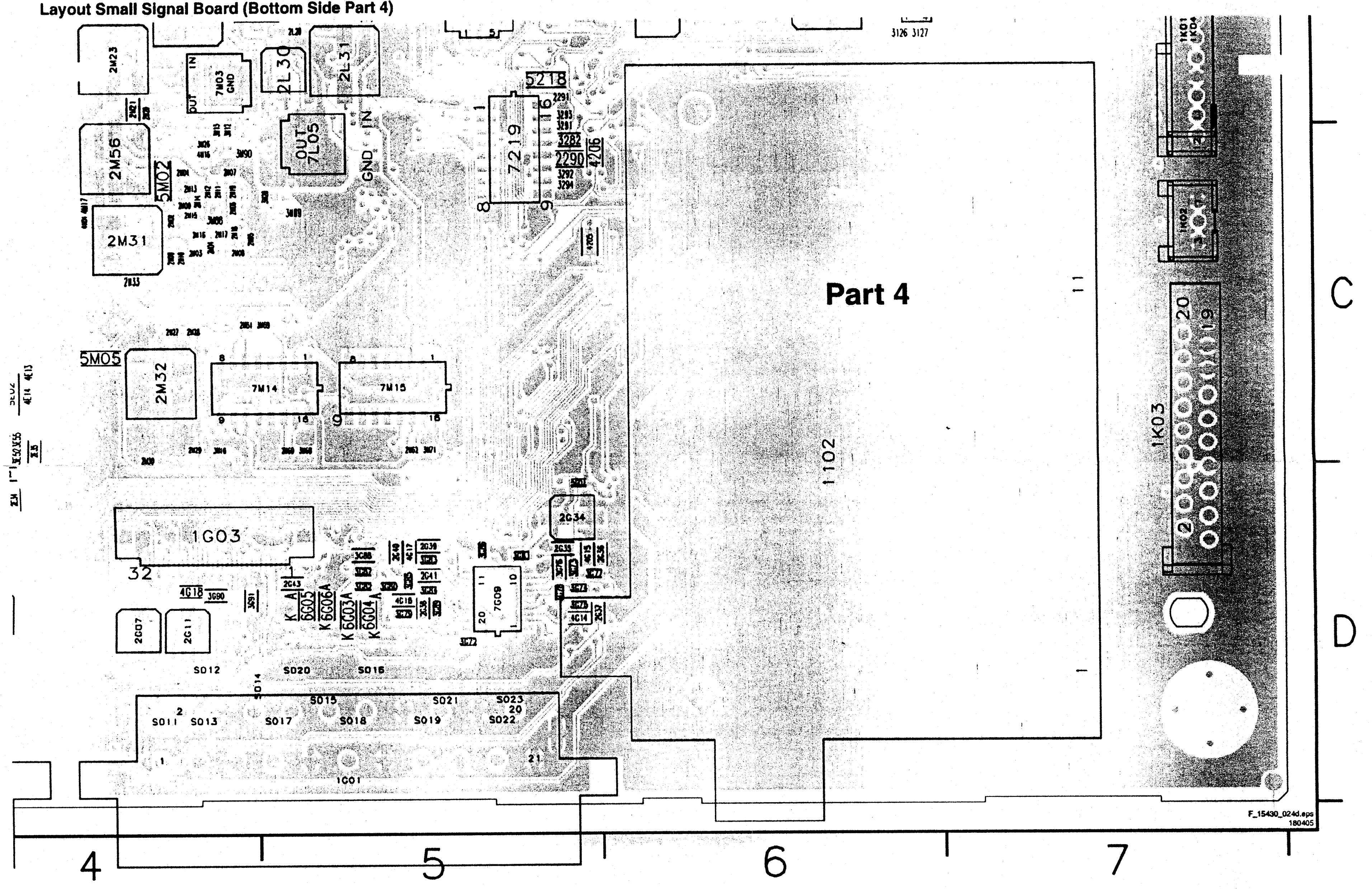
## Layout Small Signal Board (Bottom Side Part 4)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C
D
4
5
6
7
2M23
7M03
2L30
2L31
OUT
7L05
GND
IN
5218
7219
3282
2290
4206
2M56
5M02
2M31
5M05
2M32
7M14
7M15
2C34
1G03
32
4G18
6605
6606A
6603A
6604
7G09
2G07
2G11
S011
S012
S013
S014
S015
S016
S017
S018
S019
S020
S021
S022
S023
1G01
1102
1K03
1K02
1K01
3126
3127
F_15430_024d.eps
180405

## PDP Audio Amplifier Panel

| | |
|---|---|
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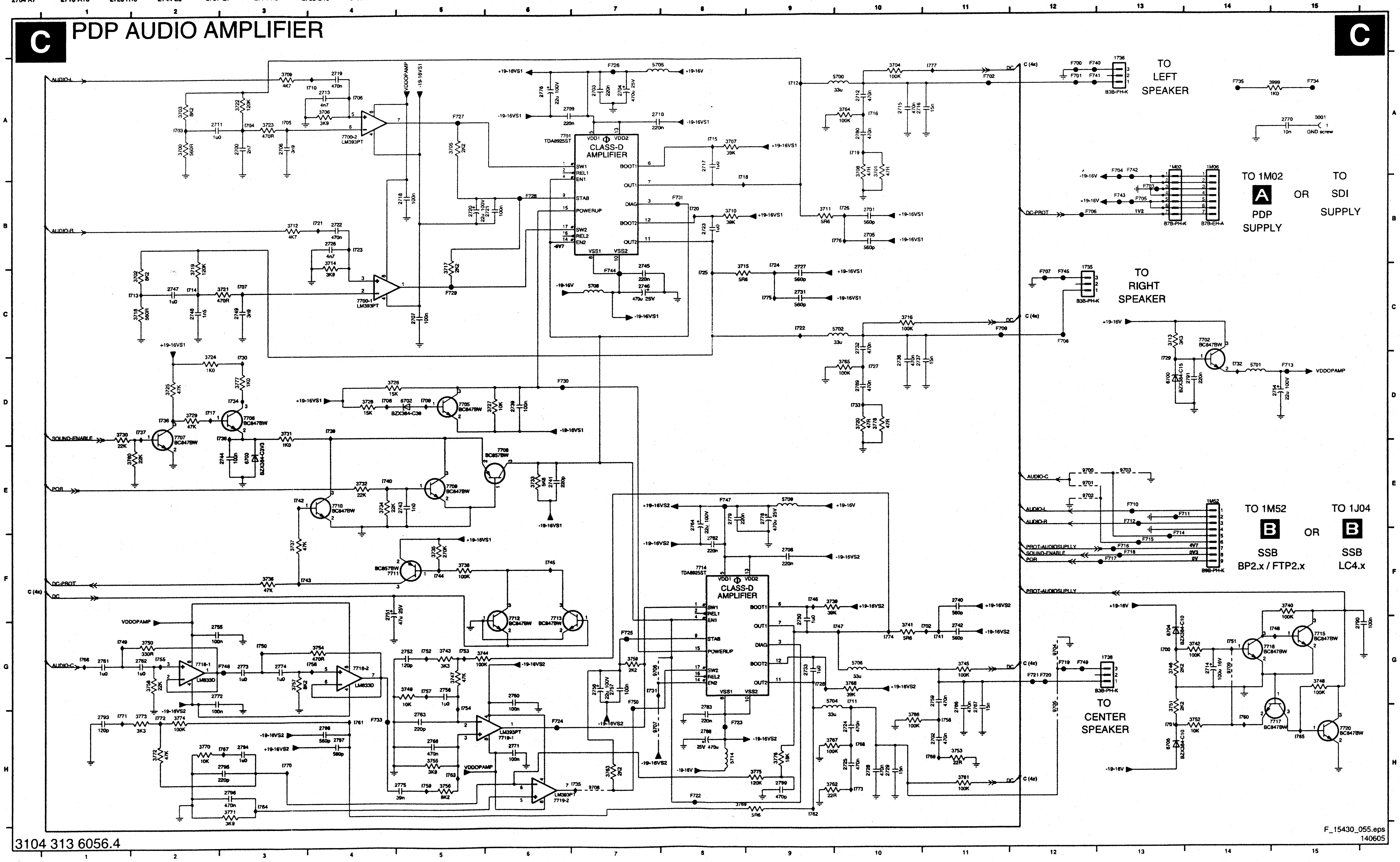
| 1735 | C12 |
| 1736 | A13 |
| 1738 | G13 |
| 1M02 | A13 |
| 1M06 | A14 |
| 1M52 | E14 |
| 2700 | A3 |
| 2701 | B10 |
| 2702 | H11 |
| 2703 | A7 |
| 2704 | A7 |
| 2705 | B10 |
| 2706 | A3 |
| 2707 | C5 |
| 2708 | F9 |
| 2709 | A6 |
| 2710 | A7 |
| 2711 | A2 |
| 2712 | A10 |
| 2713 | A4 |
| 2714 | G14 |
| 2715 | A10 |
| 2716 | A10 |
| 2717 | A8 |
| 2718 | B5 |
| 2719 | A4 |
| 2720 | B5 |
| 2721 | B6 |
| 2722 | B4 |
| 2723 | B8 |
| 2724 | H10 |
| 2725 | H10 |
| 2726 | B4 |
| 2727 | C8 |
| 2728 | H10 |
| 2729 | H10 |
| 2731 | C9 |
| 2732 | C10 |
| 2733 | G9 |
| 2736 | D10 |
| 2737 | D10 |
| 2739 | D6 |
| 2740 | F11 |
| 2741 | E6 |
| 2742 | G11 |
| 2743 | E5 |
| 2744 | E3 |
| 2745 | B7 |
| 2746 | C7 |
| 2747 | C2 |
| 2748 | C2 |
| 2749 | C3 |
| 2750 | G9 |
| 2751 | F4 |
| 2752 | G5 |
| 2754 | D15 |
| 2755 | G2 |
| 2756 | G7 |
| 2757 | G7 |
| 2758 | G5 |
| 2759 | G11 |
| 2760 | G6 |
| 2761 | G1 |
| 2762 | G2 |
| 2763 | H5 |
| 2764 | E8 |
| 2766 | H11 |
| 2767 | H11 |
| 2768 | H5 |
| 2770 | A15 |
| 2771 | H6 |
| 2772 | G2 |
| 2773 | G3 |
| 2774 | G3 |
| 2775 | H5 |
| 2776 | A6 |
| 2778 | E9 |
| 2779 | E8 |
| 2780 | A10 |
| 2782 | F8 |
| 2783 | G8 |
| 2788 | H8 |
| 2789 | D10 |
| 2790 | G15 |
| 2791 | D14 |
| 2793 | H1 |
| 2794 | H3 |
| 2795 | H3 |
| 2796 | H3 |
| 2797 | H4 |
| 2798 | H4 |
| 2799 | H9 |
| 3700 | A2 |
| 3701 | A10 |
| 3702 | C2 |
| 3703 | A2 |
| 3704 | A10 |
| 3705 | A5 |
| 3706 | A4 |
| 3707 | A8 |
| 3708 | A10 |
| 3709 | A3 |
| 3710 | B8 |
| 3711 | B8 |
| 3712 | B3 |
| 3713 | C13 |
| 3714 | B4 |
| 3715 | B8 |
| 3716 | C10 |
| 3717 | C5 |
| 3718 | C2 |
| 3719 | C2 |
| 3720 | D10 |
| 3721 | C3 |
| 3722 | A3 |
| 3723 | A3 |
| 3724 | C2 |
| 3725 | D2 |
| 3726 | D4 |
| 3727 | D6 |
| 3728 | D4 |
| 3729 | D2 |
| 3730 | D1 |
| 3731 | D3 |
| 3732 | E4 |
| 3733 | E6 |
| 3734 | E4 |
| 3735 | F5 |
| 3736 | F3 |
| 3737 | F3 |
| 3738 | F5 |
| 3739 | F9 |
| 3740 | F15 |
| 3741 | G10 |
| 3742 | G14 |
| 3743 | G5 |
| 3744 | G5 |
| 3745 | G11 |
| 3746 | G13 |
| 3747 | G5 |
| 3748 | G15 |
| 3749 | G5 |
| 3750 | G2 |
| 3751 | H13 |
| 3752 | H14 |
| 3753 | H11 |
| 3754 | G4 |
| 3755 | H5 |
| 3756 | H5 |
| 3757 | G3 |
| 3758 | G2 |
| 3759 | G7 |
| 3760 | E2 |
| 3761 | H11 |
| 3762 | H9 |
| 3763 | H7 |
| 3764 | A10 |
| 3765 | D10 |
| 3766 | H10 |
| 3767 | H9 |
| 3768 | G10 |
| 3769 | H8 |
| 3770 | H2 |
| 3771 | H3 |
| 3772 | H2 |
| 3773 | H2 |
| 3774 | H2 |
| 3775 | H9 |
| 3776 | H9 |
| 3777 | D3 |
| 3778 | D10 |
| 3999 | A15 |
| 5700 | A10 |
| 5701 | D14 |
| 5702 | C10 |
| 5704 | G9 |
| 5705 | A7 |
| 5706 | G10 |
| 5708 | C7 |
| 5709 | E9 |
| 5714 | H8 |
| 6700 | D13 |
| 6702 | D5 |
| 6703 | E3 |
| 6704 | G13 |
| 6705 | H13 |
| 7700-1 | C4 |
| 7700-2 | A4 |
| 7701 | A7 |
| 7702 | C14 |
| 7705 | D5 |
| 7706 | D3 |
| 7707 | D2 |
| 7708 | E6 |
| 7709 | E5 |
| 7710 | E4 |
| 7711 | F5 |
| 7712 | G6 |
| 7713 | G6 |
| 7714 | F8 |
| 7715 | G15 |
| 7716 | G14 |
| 7717 | H14 |
| 7718-1 | G2 |
| 7718-2 | G4 |
| 7719-1 | H6 |
| 7719-2 | H6 |
| 7720 | H15 |
| 9700 | E12 |
| 9701 | E12 |
| 9702 | E12 |
| 9703 | E13 |
| 9704 | G12 |
| 9705 | H12 |
| 9706 | G7 |
| 9707 | H7 |
| 9708 | H7 |
| 9709 | G14 |
| F700 | A12 |
| F701 | A12 |
| F702 | A11 |
| F703 | B13 |
| F704 | A13 |
| F705 | B13 |
| F706 | B12 |
| F707 | C12 |
| F708 | C12 |
| F709 | C11 |
| F710 | E13 |
| F711 | E14 |
| F712 | E13 |
| F713 | D15 |
| F714 | F13 |
| F715 | F13 |
| F716 | F13 |
| F717 | F13 |
| F718 | F13 |
| F719 | G12 |
| F720 | G12 |
| F721 | G12 |
| F722 | H8 |
| F723 | H8 |
| F724 | H6 |
| F725 | G7 |
| F726 | A7 |
| F727 | A5 |
| F728 | B6 |
| F729 | C5 |
| F730 | D6 |
| F731 | B8 |
| F733 | H4 |
| F734 | A15 |
| F735 | A14 |
| F740 | A12 |
| F741 | A12 |
| F742 | A13 |
| F743 | B13 |
| F744 | C7 |
| F745 | C12 |
| F747 | E8 |
| F748 | G3 |
| F749 | G12 |
| F750 | G7 |
| I700 | G13 |
| I701 | H13 |
| I702 | G11 |
| I703 | A2 |
| I704 | A3 |
| I705 | A3 |
| I706 | A4 |
| I707 | C3 |
| I708 | D4 |
| I709 | D5 |
| I710 | A4 |
| I711 | G10 |
| I712 | A9 |
| I713 | C2 |
| I714 | C2 |
| I715 | A8 |
| I716 | A10 |
| I717 | D2 |
| I718 | A8 |
| I719 | A10 |
| I720 | B8 |
| I721 | B4 |
| I722 | C9 |
| I723 | B4 |
| I724 | B9 |
| I725 | C8 |
| I726 | B10 |
| I727 | D10 |
| I728 | G9 |
| I729 | D13 |
| I730 | D3 |
| I731 | G7 |
| I732 | D14 |
| I733 | D10 |
| I734 | D3 |
| I735 | H7 |
| I736 | D2 |
| I737 | D2 |
| I738 | D3 |
| I739 | D4 |
| I740 | E4 |
| I741 | G11 |
| I742 | E3 |
| I743 | F3 |
| I744 | F5 |
| I745 | F6 |
| I746 | F9 |
| I747 | G10 |
| I748 | G15 |
| I749 | G1 |
| I750 | G3 |
| I751 | G14 |
| I752 | G5 |
| I753 | G5 |
| I754 | G5 |
| I755 | G2 |
| I756 | G4 |
| I757 | G5 |
| I758 | H11 |
| I759 | H5 |
| I760 | H14 |
| I761 | H4 |
| I762 | H9 |
| I763 | H5 |
| I764 | H3 |
| I765 | H15 |
| I766 | G1 |
| I767 | H3 |
| I768 | H10 |
| I769 | H11 |
| I770 | H3 |
| I771 | H1 |
| I772 | H2 |
| I773 | H10 |
| I774 | G10 |
| I775 | C9 |
| I776 | B10 |
| I777 | A11 |


C
PDP AUDIO AMPLIFIER
C
AUDIO-L
AUDIO-R
SOUND-ENABLE
POR
DC-PROT
DC
AUDIO-C
C (4x)
VDDOPAMP
+19-16VS1
-19-16VS1
+19-16V
-19-16V
+19-16VS2
-19-16VS2
7701
TDA8925ST
CLASS-D
AMPLIFIER
7714
TDA8925ST
CLASS-D
AMPLIFIER
VDD1
VDD2
SW1
REL1
EN1
STAB
POWERUP
SW2
REL2
EN2
BOOT1
OUT1
DIAG
BOOT2
OUT2
VSS1
VSS2
7700-1
LM393PT
7700-2
LM393PT
7718-1
LM833D
7718-2
LM833D
7719-1
LM393PT
7719-2
LM393PT
BC847BW
BC857BW
BZX384-C3V9
BZX384-C15
BZX384-C10
TO
LEFT
SPEAKER
TO
RIGHT
SPEAKER
TO
CENTER
SPEAKER
B3B-PH-K
TO 1M02
A
OR
TO
SDI
SUPPLY
PDP
SUPPLY
B7B-PH-K
B7B-EH-A
TO 1M52
B
OR
TO 1J04
B
SSB
BP2.x / FTP2.x
SSB
LC4.x
B9B-PH-K
PROT-AUDIOSUPPLY
SOUND-ENABLE
GND screw
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
A
B
C
D
E
F
G
H
3104 313 6056.4
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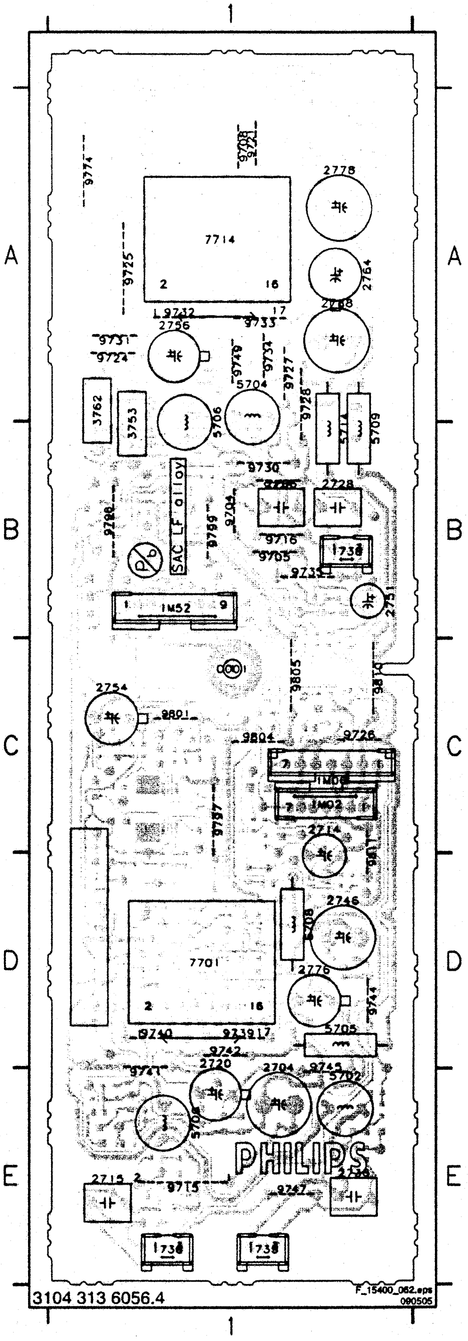
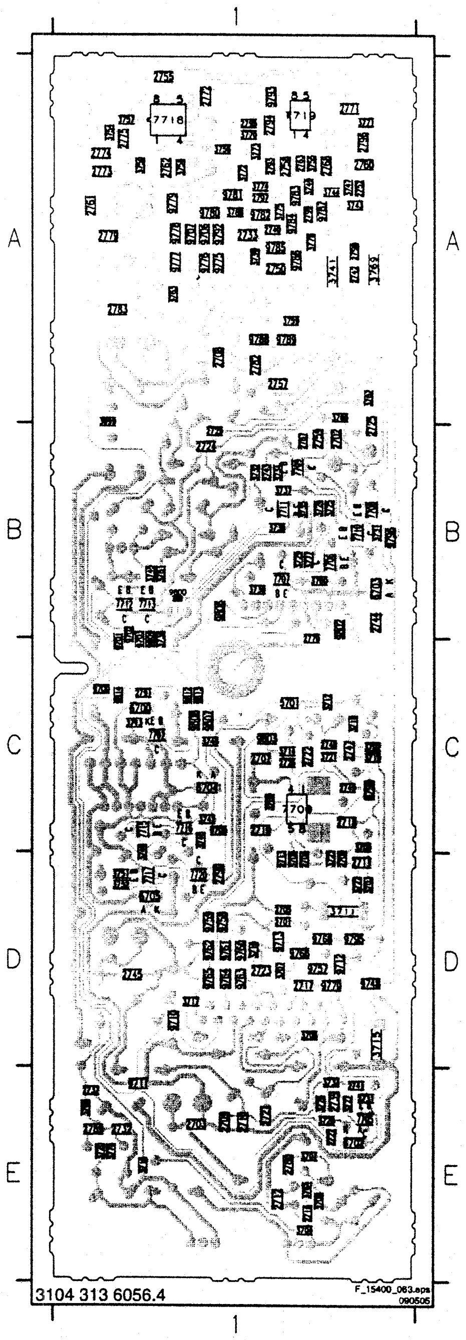
140605

## Layout PDP Audio Amplifier Panel (Top Side)



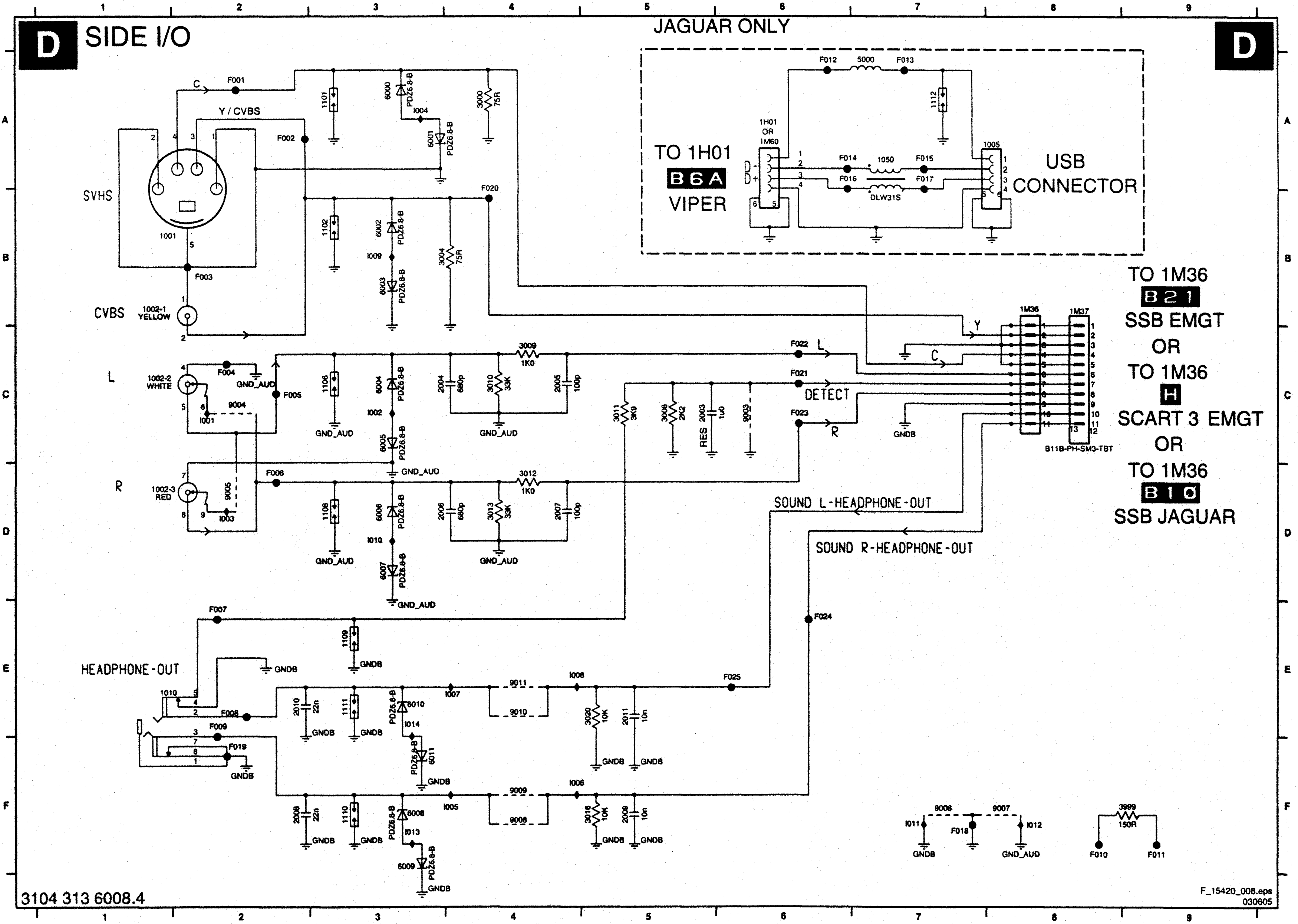
| | |
|---|---|
| 0001 | C1 |
| 1735 | E1 |
| 1736 | E1 |
| 1738 | B1 |
| 1M02 | C1 |
| 1M06 | C1 |
| 1M52 | B1 |
| 2704 | D1 |
| 2714 | C1 |
| 2715 | E1 |
| 2720 | D1 |
| 2728 | B1 |
| 2736 | E1 |
| 2746 | D1 |
| 2751 | B1 |
| 2754 | C1 |
| 2756 | A1 |
| 2764 | A1 |
| 2766 | B1 |
| 2776 | D1 |
| 2778 | A1 |
| 2788 | A1 |
| 3753 | B1 |
| 3762 | A1 |
| 5700 | E1 |
| 5702 | E1 |
| 5704 | A1 |
| 5705 | D1 |
| 5706 | A1 |
| 5708 | D1 |
| 5709 | B1 |
| 5714 | A1 |
| 7701 | D1 |
| 7714 | A1 |
| 9704 | B1 |
| 9705 | B1 |
| 9708 | A1 |
| 9715 | E1 |
| 9716 | B1 |
| 9721 | A1 |
| 9723 | B1 |
| 9724 | A1 |
| 9725 | A1 |
| 9726 | C1 |
| 9727 | A1 |
| 9728 | B1 |
| 9730 | B1 |
| 9731 | A1 |
| 9732 | A1 |
| 9733 | A1 |
| 9734 | A1 |
| 9735 | B1 |
| 9739 | D1 |
| 9740 | D1 |
| 9741 | E1 |
| 9742 | D1 |
| 9744 | D1 |
| 9745 | D1 |
| 9747 | E1 |
| 9749 | A1 |
| 9774 | A1 |
| 9797 | C1 |
| 9798 | B1 |
| 9799 | B1 |
| 9801 | C1 |
| 9804 | C1 |
| 9805 | C1 |
| 9810 | C1 |
| 9811 | C1 |

## Layout PDP Audio Amplifier Panel (Bottom Side)



| | | | | | |
|---|---|---|---|---|---|
| 2700 | D1 | 3740 | C1 | 9808 | C1 |
| 2701 | D1 | 3741 | A1 | 9809 | C1 |
| 2702 | B1 | 3742 | C1 | 9812 | C1 |
| 2703 | E1 | 3743 | A1 | 9813 | C1 |
| 2705 | D1 | 3744 | A1 | 9814 | C1 |
| 2706 | D1 | 3745 | B1 | | |
| 2707 | C1 | 3746 | C1 | | |
| 2708 | A1 | 3747 | A1 | | |
| 2709 | E1 | 3748 | D1 | | |
| 2710 | E1 | 3749 | A1 | | |
| 2711 | D1 | 3750 | A1 | | |
| 2712 | E1 | 3751 | D1 | | |
| 2713 | D1 | 3752 | D1 | | |
| 2716 | E1 | 3754 | A1 | | |
| 2717 | D1 | 3755 | A1 | | |
| 2718 | C1 | 3756 | A1 | | |
| 2719 | C1 | 3757 | A1 | | |
| 2721 | E1 | 3758 | A1 | | |
| 2722 | C1 | 3759 | A1 | | |
| 2723 | D1 | 3760 | B1 | | |
| 2724 | B1 | 3761 | B1 | | |
| 2725 | B1 | 3763 | A1 | | |
| 2726 | C1 | 3764 | E1 | | |
| 2727 | E1 | 3765 | E1 | | |
| 2729 | B1 | 3766 | A1 | | |
| 2731 | E1 | 3767 | A1 | | |
| 2732 | E1 | 3768 | A1 | | |
| 2733 | A1 | 3769 | A1 | | |
| 2737 | E1 | 3770 | A1 | | |
| 2739 | E1 | 3771 | A1 | | |
| 2740 | A1 | 3772 | A1 | | |
| 2741 | E1 | 3773 | A1 | | |
| 2742 | A1 | 3774 | A1 | | |
| 2743 | B1 | 3775 | A1 | | |
| 2744 | B1 | 3776 | A1 | | |
| 2745 | D1 | 3777 | B1 | | |
| 2747 | C1 | 3778 | E1 | | |
| 2748 | C1 | 3999 | A1 | | |
| 2749 | C1 | 5701 | C1 | | |
| 2750 | A1 | 6700 | C1 | | |
| 2752 | A1 | 6702 | E1 | | |
| 2755 | A1 | 6703 | B1 | | |
| 2757 | A1 | 6704 | C1 | | |
| 2758 | A1 | 6705 | D1 | | |
| 2759 | B1 | 7700 | C1 | | |
| 2760 | A1 | 7702 | C1 | | |
| 2761 | A1 | 7705 | E1 | | |
| 2762 | A1 | 7706 | B1 | | |
| 2763 | A1 | 7707 | B1 | | |
| 2767 | B1 | 7708 | B1 | | |
| 2768 | A1 | 7709 | B1 | | |
| 2770 | B1 | 7710 | B1 | | |
| 2771 | A1 | 7711 | B1 | | |
| 2772 | A1 | 7712 | B1 | | |
| 2773 | A1 | 7713 | B1 | | |
| 2774 | A1 | 7715 | C1 | | |
| 2775 | A1 | 7716 | C1 | | |
| 2779 | A1 | 7717 | D1 | | |
| 2780 | E1 | 7718 | A1 | | |
| 2782 | A1 | 7719 | A1 | | |
| 2783 | A1 | 7720 | D1 | | |
| 2789 | E1 | 9700 | C1 | | |
| 2790 | D1 | 9701 | C1 | | |
| 2791 | C1 | 9702 | B1 | | |
| 2793 | A1 | 9703 | C1 | | |
| 2794 | A1 | 9706 | A1 | | |
| 2795 | A1 | 9707 | A1 | | |
| 2796 | A1 | 9709 | C1 | | |
| 2797 | A1 | 9710 | D1 | | |
| 2798 | A1 | 9711 | E1 | | |
| 2799 | A1 | 9712 | D1 | | |
| 3700 | C1 | 9713 | D1 | | |
| 3701 | E1 | 9748 | D1 | | |
| 3702 | C1 | 9757 | D1 | | |
| 3703 | D1 | 9758 | D1 | | |
| 3704 | E1 | 9759 | D1 | | |
| 3705 | D1 | 9760 | D1 | | |
| 3706 | D1 | 9761 | D1 | | |
| 3707 | D1 | 9762 | D1 | | |
| 3708 | E1 | 9763 | D1 | | |
| 3709 | C1 | 9764 | D1 | | |
| 3710 | D1 | 9765 | D1 | | |
| 3711 | D1 | 9766 | D1 | | |
| 3712 | C1 | 9768 | D1 | | |
| 3713 | C1 | 9770 | D1 | | |
| 3714 | C1 | 9775 | A1 | | |
| 3715 | D1 | 9776 | A1 | | |
| 3716 | E1 | 9777 | A1 | | |
| 3717 | D1 | 9778 | A1 | | |
| 3718 | C1 | 9779 | A1 | | |
| 3719 | C1 | 9780 | A1 | | |
| 3720 | E1 | 9781 | A1 | | |
| 3721 | C1 | 9782 | A1 | | |
| 3722 | D1 | 9783 | A1 | | |
| 3723 | D1 | 9784 | A1 | | |
| 3724 | B1 | 9785 | A1 | | |
| 3725 | B1 | 9786 | A1 | | |
| 3726 | E1 | 9787 | A1 | | |
| 3727 | E1 | 9788 | A1 | | |
| 3728 | E1 | 9789 | A1 | | |
| 3729 | B1 | 9790 | C1 | | |
| 3730 | B1 | 9792 | A1 | | |
| 3731 | B1 | 9793 | A1 | | |
| 3732 | B1 | 9795 | D1 | | |
| 3733 | E1 | 9796 | B1 | | |
| 3734 | B1 | 9800 | B1 | | |
| 3735 | B1 | 9801 | C1 | | |
| 3736 | C1 | 9802 | B1 | | |
| 3737 | B1 | 9803 | C1 | | |
| 3738 | B1 | 9806 | B1 | | |
| 3739 | A1 | 9807 | C1 | | |

## Side I/O Panel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SIDE I/O
JAGUAR ONLY
D
SVHS
1001
C
Y / CVBS
F001
F002
F003
CVBS
1002-1 YELLOW
L
1002-2 WHITE
R
1002-3 RED
F004
F005
F006
GND_AUD
9004
9005
I001
I003
1101
1102
1106
1108
6000
6001
6002
6003
6004
6005
6006
6007
PDZ6.8-B
I004
I009
I002
I010
3000 75R
3004 75R
F020
2004 680p
3010 33K
3009 1K0
2005 100p
2006 680p
3013 33K
3012 1K0
2007 100p
3011 3K9
3008 2K2
2003 1u0
RES
9003
F022
F021
F023
L
DETECT
R
Y
C
GNDB
1M36
1M37
B11B-PH-SM3-TBT
TO 1H01
B6A
VIPER
1H01 OR 1M60
D-
D+
F012
5000
F013
1112
F014
1050
F015
F016
F017
DLW31S
1005
USB CONNECTOR
TO 1M36
B21
SSB EMGT
OR
TO 1M36
H
SCART 3 EMGT
OR
TO 1M36
B10
SSB JAGUAR
SOUND L-HEADPHONE-OUT
SOUND R-HEADPHONE-OUT
F024
F025
F007
1109
HEADPHONE-OUT
1010
F008
F009
F019
2010 22n
1111
6010
I014
6011
I007
9011
9010
I008
3020 10K
2011 10n
2008 22n
1110
6008
I013
6009
I005
9009
9008
I006
3016 10K
2009 10n
9006
9007
I011
F018
I012
3999 150R
F010
F011
3104 313 6008.4
F_15420_008.eps
030605

| | |
|---|---|
| 1001 | B2 |
| 1002-1 | B1 |
| 1002-2 | C1 |
| 1002-3 | D1 |
| 1005 | A8 |
| 1010 | E1 |
| 1050 | A7 |
| 1101 | A3 |
| 1102 | B3 |
| 1106 | C3 |
| 1108 | D3 |
| 1109 | E3 |
| 1110 | F3 |
| 1111 | E3 |
| 1112 | A7 |
| 1H01 | A6 |
| 1M36 | B8 |
| 1M37 | B8 |
| 2003 | C5 |
| 2004 | C3 |
| 2005 | C4 |
| 2006 | D3 |
| 2007 | D4 |
| 2008 | F2 |
| 2009 | F5 |
| 2010 | E2 |
| 2011 | E5 |
| 3000 | A4 |
| 3004 | B3 |
| 3008 | C5 |
| 3009 | C4 |
| 3010 | C4 |
| 3011 | C5 |
| 3012 | D4 |
| 3013 | D4 |
| 3016 | F5 |
| 3020 | E5 |
| 3999 | F9 |
| 5000 | A7 |
| 6000 | A3 |
| 6001 | A3 |
| 6002 | B3 |
| 6003 | B3 |
| 6004 | C3 |
| 6005 | C3 |
| 6006 | D3 |
| 6007 | D3 |
| 6008 | F3 |
| 6009 | F3 |
| 6010 | E3 |
| 6011 | F3 |
| 9003 | C6 |
| 9004 | C2 |
| 9005 | D2 |
| 9006 | F7 |
| 9007 | F8 |
| 9008 | F4 |
| 9009 | F4 |
| 9010 | E4 |
| 9011 | E4 |
| F001 | A2 |
| F002 | A2 |
| F003 | B2 |
| F004 | C2 |
| F005 | C2 |
| F006 | D2 |
| F007 | E2 |
| F008 | E2 |
| F009 | E2 |
| F010 | F8 |
| F011 | F9 |
| F012 | A6 |
| F013 | A7 |
| F014 | A6 |
| F015 | A7 |
| F016 | A6 |
| F017 | A7 |
| F018 | F7 |
| F019 | F2 |
| F020 | B4 |
| F021 | C6 |
| F022 | C6 |
| F023 | C6 |
| F024 | E6 |
| F025 | E6 |
| I001 | C2 |
| I002 | C3 |
| I003 | D2 |
| I004 | A3 |
| I005 | F4 |
| I006 | F4 |
| I007 | E4 |
| I008 | E4 |
| I009 | B3 |
| I010 | D3 |
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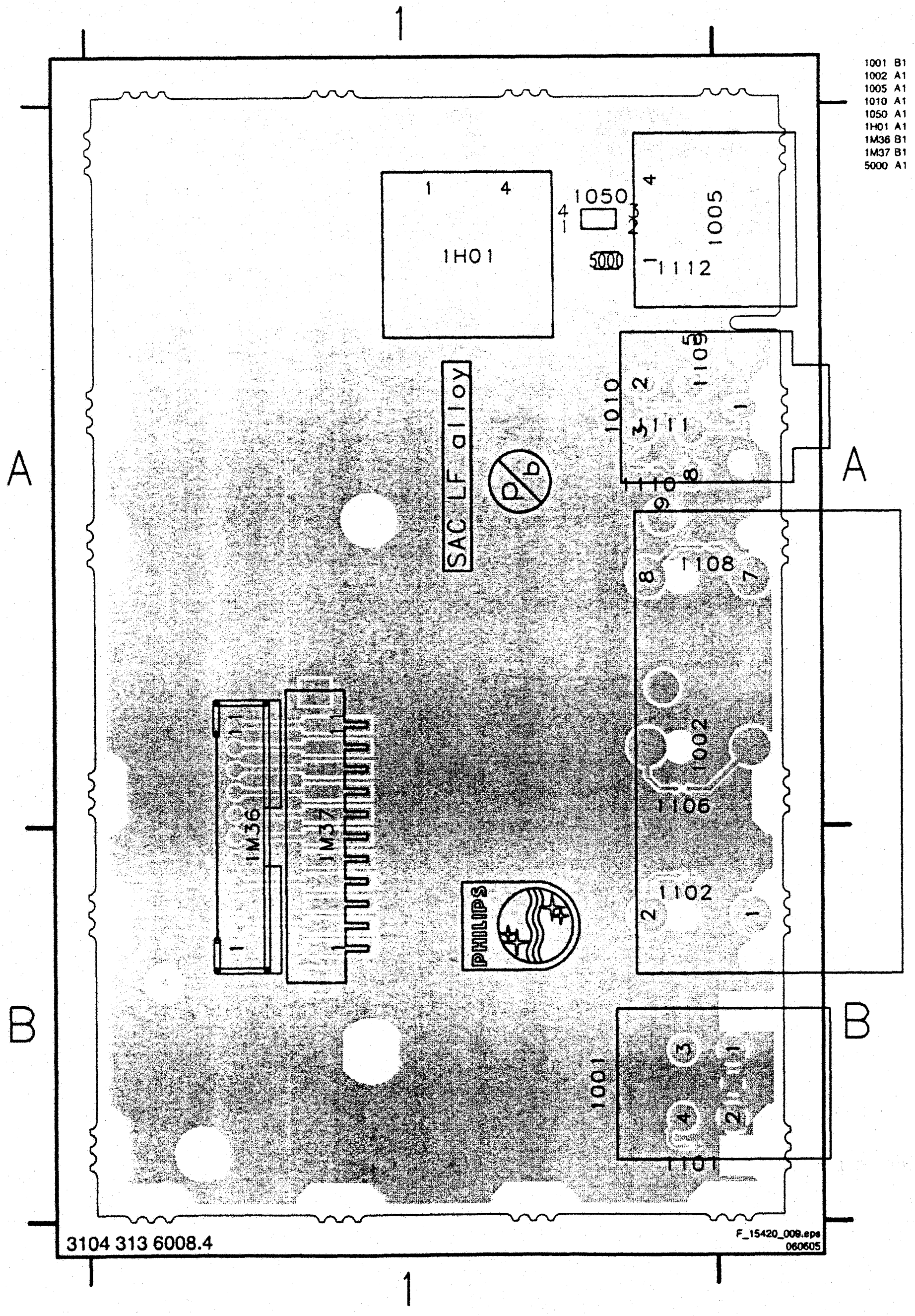
| I012 | F8 |
| I013 | F3 |
| I014 | E3 |

## Layout Side I/O Panel (Top Side)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A
B
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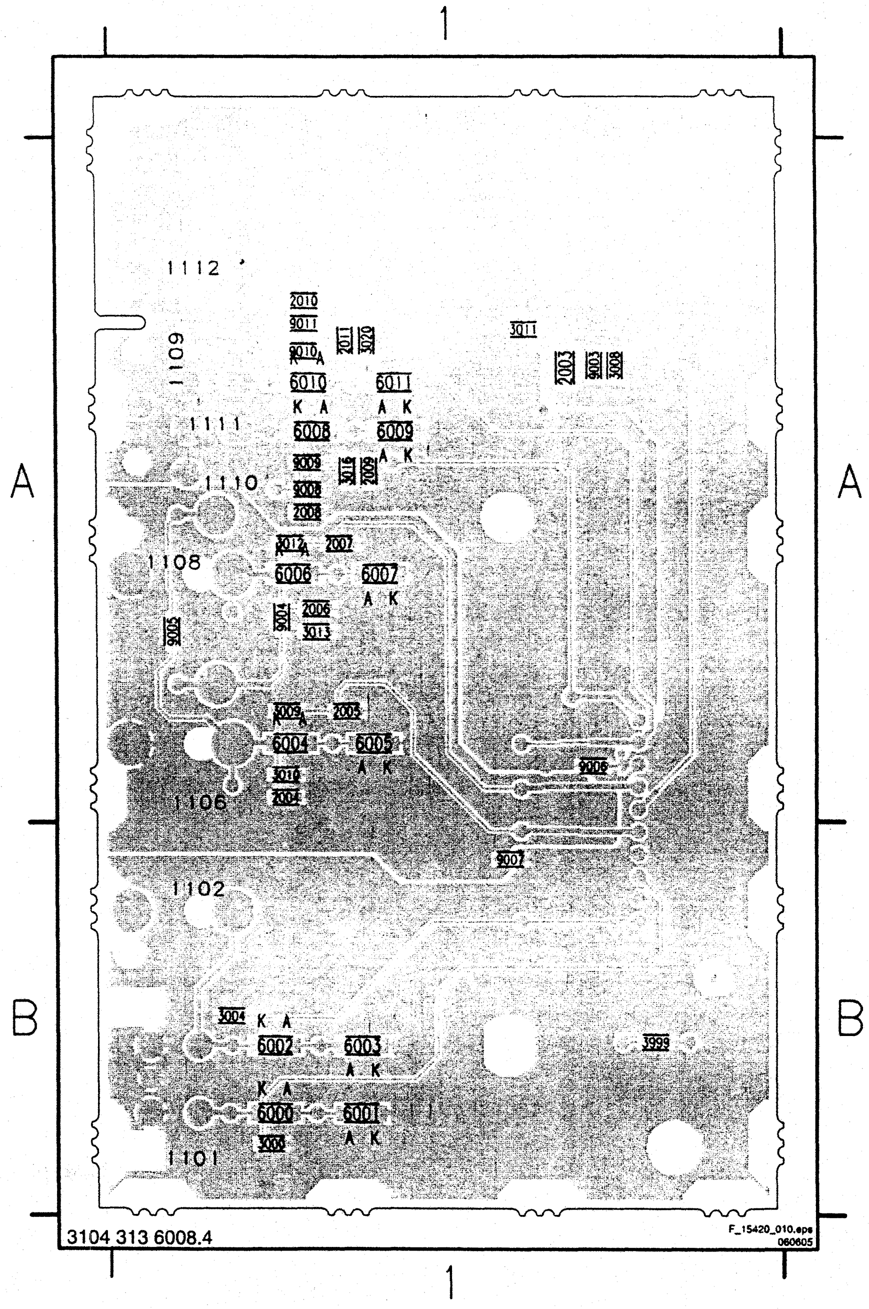
1050
1005
5000
1112
1105
1010
1111
1110
1108
1002
1106
1102
1001
1101
1M36
1M37
SAC LF alloy
Pb
PHILIPS
3104 313 6008.4
F_15420_009.eps
060605

| | |
|---|---|
| 1001 | B1 |
| 1002 | A1 |
| 1005 | A1 |
| 1010 | A1 |
| 1050 | A1 |
| 1H01 | A1 |
| 1M36 | B1 |
| 1M37 | B1 |
| 5000 | A1 |

## Layout Side I/O Panel (Bottom Side)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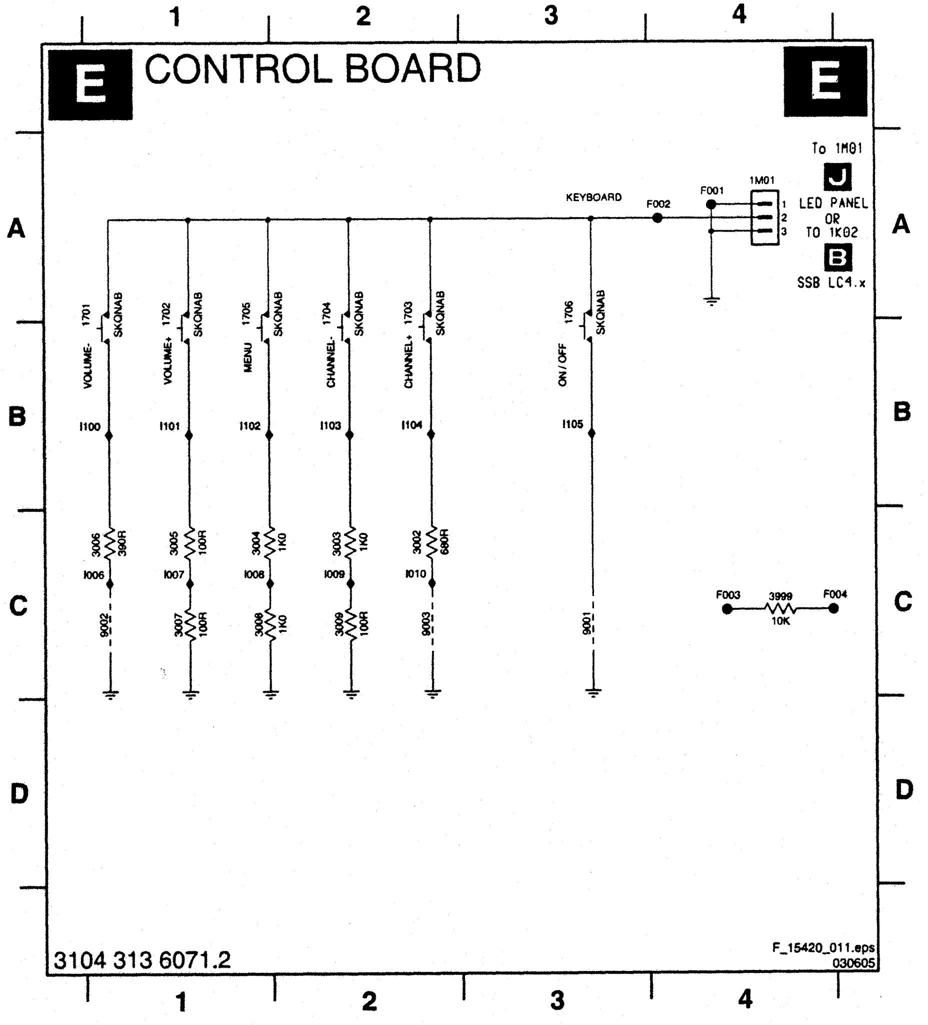
A
B
1112
1109
1111
1110
1108
1106
1102
1101
2010
9011
9010
6010
6011
6008
6009
9009
9008
2008
3011
2011
3020
2003
9003
3008
3016
2009
3012
2007
6006
6007
9004
2006
3013
9005
3009
2005
6004
6005
3010
2004
9006
9007
3004
6002
6003
3999
6000
6001
3000
K
A
3104 313 6008.4
F_15420_010.eps
060605

| | |
|---|---|
| 2003 | A1 |
| 2004 | A1 |
| 2005 | A1 |
| 2006 | A1 |
| 2007 | A1 |
| 2008 | A1 |
| 2009 | A1 |
| 2010 | A1 |
| 2011 | A1 |
| 3000 | B1 |
| 3004 | B1 |
| 3008 | A1 |
| 3009 | A1 |
| 3010 | A1 |
| 3011 | A1 |
| 3012 | A1 |
| 3013 | A1 |
| 3016 | A1 |
| 3020 | A1 |
| 3999 | B1 |
| 6000 | B1 |
| 6001 | B1 |
| 6002 | B1 |
| 6003 | B1 |
| 6004 | A1 |
| 6005 | A1 |
| 6006 | A1 |
| 6007 | A1 |
| 6008 | A1 |
| 6009 | A1 |
| 6010 | A1 |
| 6011 | A1 |
| 9003 | A1 |
| 9004 | A1 |
| 9005 | A1 |
| 9006 | A1 |
| 9007 | B1 |
| 9008 | A1 |
| 9009 | A1 |
| 9010 | A1 |
| 9011 | A1 |

## Control Board

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1701 A1 | 1704 A2 | 1M01 A4 | 3004 C1 | 3007 C1 | 3999 C4 | 9003 C2 | F003 C4 | I007 C1 | I010 C2 | I102 B1 | I105 B3 |
| 1702 A1 | 1705 A1 | 3002 C2 | 3005 C1 | 3008 C1 | 9001 C3 | F001 A4 | F004 C4 | I008 C1 | I100 B1 | I103 B2 | |
| 1703 A2 | 1706 A3 | 3003 C2 | 3006 C1 | 3009 C2 | 9002 C1 | F002 A4 | I006 C1 | I009 C2 | I101 B1 | I104 B2 | |



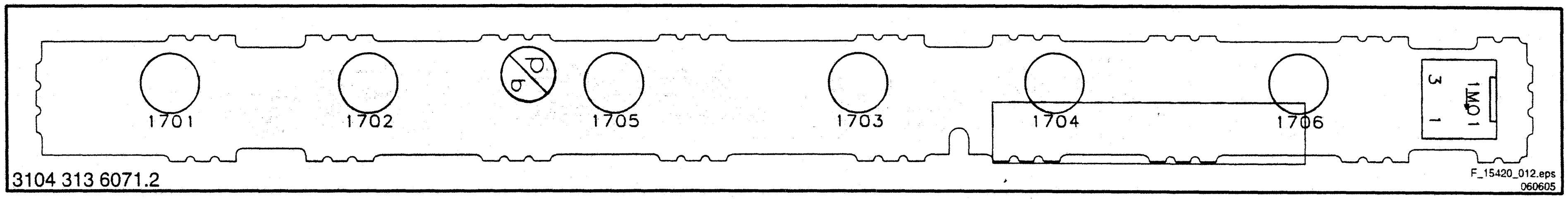
E
CONTROL BOARD
E
1
2
3
4
A
B
C
D
To 1M01
J
LED PANEL
OR
TO 1K02
B
SSB LC4.x
KEYBOARD
F002
F001
1M01
1
2
3
1701
SKQNAB
VOLUME-
1702
SKQNAB
VOLUME+
1705
SKQNAB
MENU
1704
SKQNAB
CHANNEL-
1703
SKQNAB
CHANNEL+
1706
SKQNAB
ON / OFF
I100
I101
I102
I103
I104
I105
3006
390R
3005
100R
3004
1K0
3003
1K0
3002
680R
I006
I007
I008
I009
I010
9002
3007
100R
3008
1K0
3009
100R
9003
9001
F003
3999
10K
F004
3104 313 6071.2
F_15420_011.eps
030605

## *Personal Notes:*

E_06532_012.eps
131004

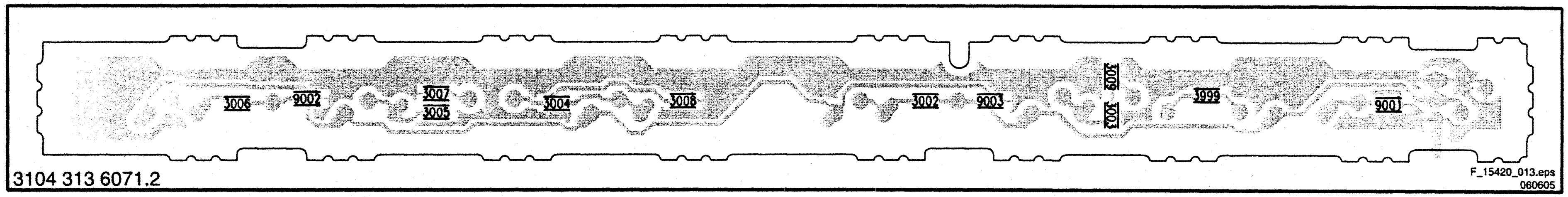
## Layout Control Board (Top Side)

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1701 | -- | 1702 | -- | 1703 | -- | 1704 | -- | 1705 | -- | 1706 | -- | 1M01 | -- |

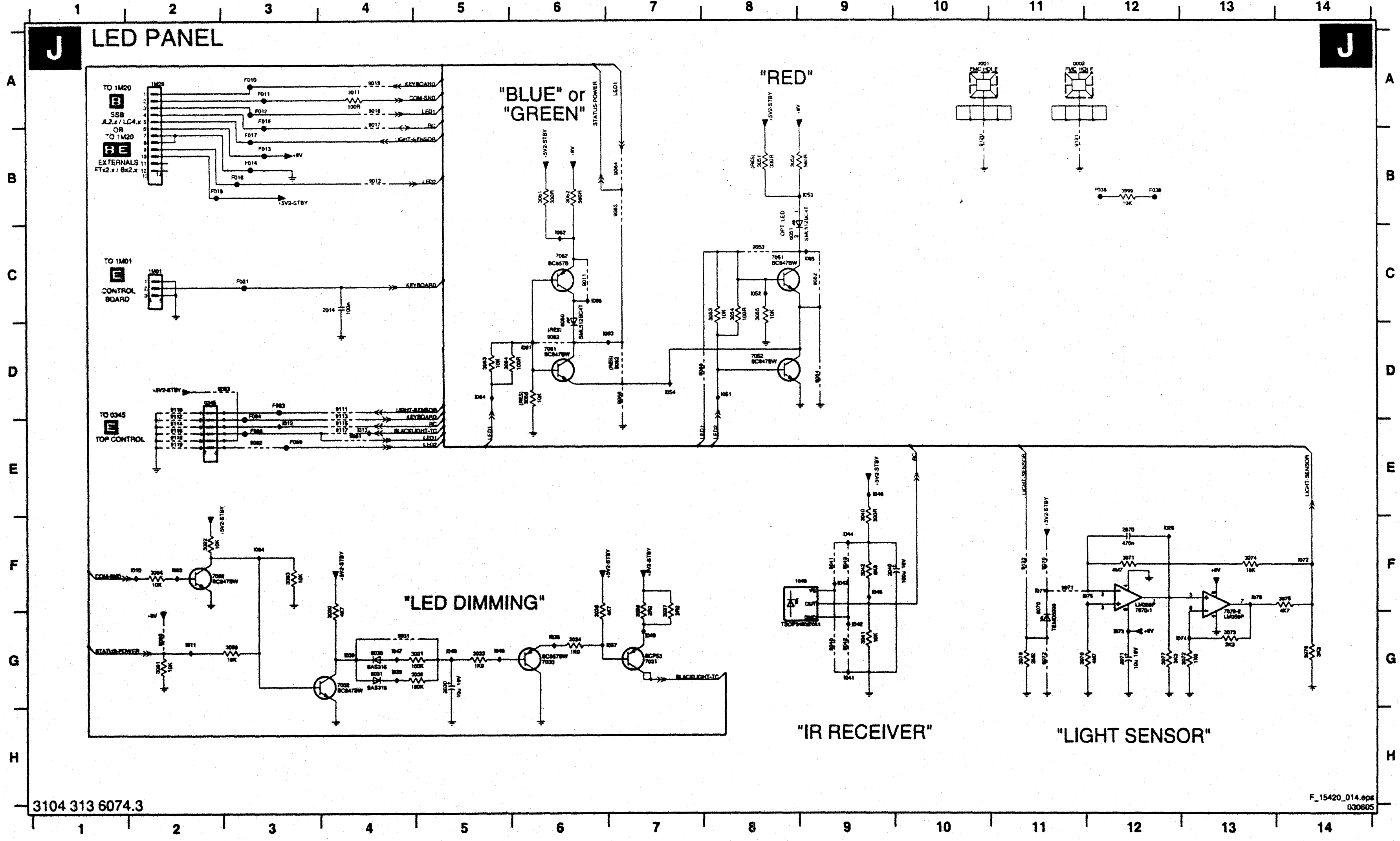

1701
1702
1705
1703
1704
1706
1M01
3
1
3104 313 6071.2
F_15420_012.eps
060605

## Layout Control Board (Bottom Side)

| | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3002 | -- | 3003 | -- | 3004 | -- | 3005 | -- | 3006 | -- | 3007 | -- | 3008 | -- | 3009 | -- | 3999 | -- | 9001 | -- | 9002 | -- | 9003 | -- |

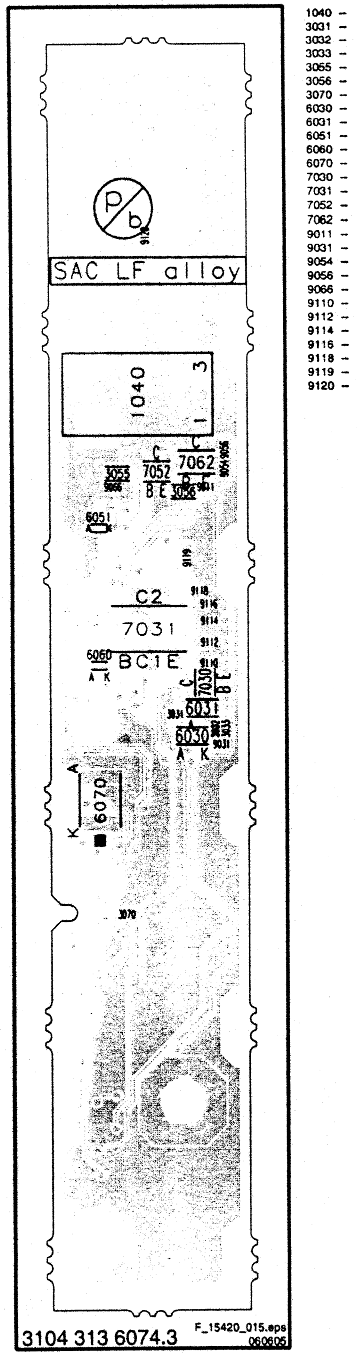

3006
9002
3007
3005
3004
3008
3002
9003
3009
3003
3999
9001
3104 313 6071.2
F_15420_013.eps
060605

## LED Panel


J
LED PANEL
TO 1M20
SSB
JL2.x / LC4.x
OR
TO 1M20
EXTERNALS
TO 1M01
CONTROL BOARD
TO 0345
TOP CONTROL
KEYBOARD
COM-SND
LED1
RC
LIGHT-SENSOR
+8V
LED2
+5V2-STBY
"BLUE" or "GREEN"
STATUS-POWER
"RED"
BC847BW
BC857B
"LED DIMMING"
BAS316
BACKLIGHT-TC
"IR RECEIVER"
TSOP34836WA1
"LIGHT SENSOR"
LM358P
3104 313 6074.3
F_15420_014.eps
030605

| | |
|---|---|
| 0001 | A10 |
| 0002 | A11 |
| 0345 | D2 |
| 1040 | F9 |
| 1M01 | C2 |
| 1M20 | A2 |
| 2014 | C4 |
| 2030 | G5 |
| 2040 | F9 |
| 2070 | F12 |
| 2071 | G12 |
| 3011 | A4 |
| 3030 | G4 |
| 3031 | G5 |
| 3032 | G5 |
| 3033 | G5 |
| 3034 | G6 |
| 3035 | G6 |
| 3036 | G7 |
| 3037 | G7 |
| 3040 | F9 |
| 3041 | G9 |
| 3042 | F9 |
| 3051 | B8 |
| 3052 | B8 |
| 3053 | C8 |
| 3054 | C8 |
| 3055 | C8 |
| 3056 | D6 |
| 3061 | B6 |
| 3062 | B6 |
| 3063 | D5 |
| 3064 | D5 |
| 3070 | G11 |
| 3071 | F12 |
| 3072 | G13 |
| 3073 | G13 |
| 3074 | F13 |
| 3075 | F14 |
| 3076 | G14 |
| 3077 | G12 |
| 3078 | G11 |
| 3091 | G2 |
| 3092 | F2 |
| 3093 | F3 |
| 3094 | F2 |
| 3096 | G3 |
| 3999 | B12 |
| 6030 | G4 |
| 6031 | G4 |
| 6051 | C8 |
| 6060 | C6 |
| 6070 | G11 |
| 7030 | G6 |
| 7031 | G7 |
| 7032 | G4 |
| 7051 | C8 |
| 7052 | D8 |
| 7061 | D6 |
| 7062 | C6 |
| 7070-1 | F12 |
| 7070-2 | G13 |
| 7092 | F2 |
| 9011 | C6 |
| 9012 | B4 |
| 9015 | A4 |
| 9016 | A4 |
| 9017 | A4 |
| 9031 | G4 |
| 9040 | G9 |
| 9041 | F9 |
| 9042 | G9 |
| 9043 | F9 |
| 9052 | C8 |
| 9053 | C8 |
| 9054 | D9 |
| 9056 | D7 |
| 9062 | D7 |
| 9063 | D6 |
| 9064 | B7 |
| 9065 | B7 |
| 9066 | D7 |
| 9070 | F11 |
| 9071 | F11 |
| 9072 | G11 |
| 9081 | E4 |
| 9082 | E3 |
| 9083 | D3 |
| 9093 | G2 |
| 9110 | D2 |
| 9111 | D4 |
| 9112 | D2 |
| 9113 | D4 |
| 9114 | E2 |
| 9115 | E4 |
| 9116 | E2 |
| 9117 | E4 |
| 9118 | E2 |
| 9119 | E2 |
| 9120 | B10 |
| 9121 | B11 |
| 9122 | F11 |
| F010 | A3 |
| F011 | A3 |
| F012 | A3 |
| F013 | B3 |
| F014 | B3 |
| F015 | A3 |
| F016 | B3 |
| F017 | B3 |
| F018 | B2 |
| F021 | C3 |
| F038 | B12 |
| F039 | B12 |
| F083 | D3 |
| F084 | D3 |
| F088 | E3 |
| F089 | E3 |
| I010 | F2 |
| I011 | G2 |
| I012 | E3 |
| I013 | E4 |
| I026 | F12 |
| I033 | G4 |
| I037 | G7 |
| I038 | G6 |
| I039 | G4 |
| I040 | G5 |
| I041 | G9 |
| I042 | G9 |
| I043 | F9 |
| I044 | F9 |
| I045 | F9 |
| I046 | E9 |
| I047 | G4 |
| I048 | G5 |
| I049 | G7 |
| I051 | D8 |
| I052 | C8 |
| I053 | B9 |
| I054 | D7 |
| I061 | D6 |
| I062 | C6 |
| I063 | D7 |
| I064 | D5 |
| I065 | C9 |
| I071 | F11 |
| I072 | F14 |
| I073 | G12 |
| I074 | G12 |
| I075 | F12 |
| I076 | F13 |
| I093 | F2 |
| I094 | F3 |
| I095 | C8 |

## Layout LED Panel


1040 –
3031 –
3032 –
3033 –
3055 –
3056 –
3070 –
6030 –
6031 –
6051 –
6060 –
6070 –
7030 –
7031 –
7052 –
7062 –
9011 –
9031 –
9054 –
9056 –
9066 –
9110 –
9112 –
9114 –
9116 –
9118 –
9119 –
9120 –
SAC LF alloy
1040
C2
7031
BC1E
6070
3104 313 6074.3
F_15420_015.eps
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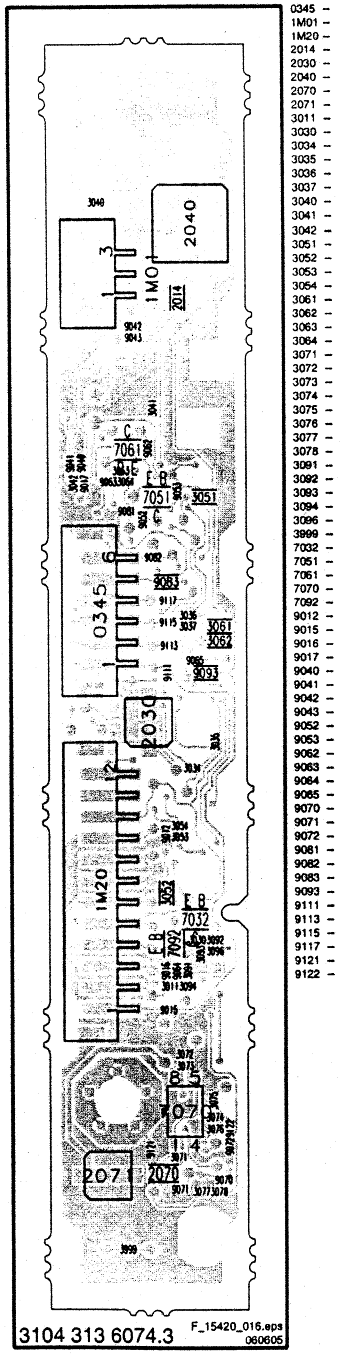
0345 –
1M01 –
1M20 –
2014 –
2030 –
2040 –
2070 –
2071 –
3011 –
3030 –
3034 –
3035 –
3036 –
3037 –
3040 –
3041 –
3042 –
3051 –
3052 –
3053 –
3054 –
3061 –
3062 –
3063 –
3064 –
3071 –
3072 –
3073 –
3074 –
3075 –
3076 –
3077 –
3078 –
3091 –
3092 –
3093 –
3094 –
3096 –
3999 –
7032 –
7051 –
7061 –
7070 –
7092 –
9012 –
9015 –
9016 –
9017 –
9040 –
9041 –
9042 –
9043 –
9052 –
9053 –
9062 –
9063 –
9064 –
9065 –
9070 –
9071 –
9072 –
9081 –
9082 –
9083 –
9093 –
9111 –
9113 –
9115 –
9117 –
9121 –
9122 –
2040
1M01
0345
2030
1M20
7032
7092
2071
2070
3104 313 6074.3
F_15420_016.eps
060605

***Personal Notes:***

E_06532_012.eps
131004

# 8. Alignments

**Index of this chapter:**
8.1 General Alignment Conditions
8.2 Hardware Alignments
8.3 Software Alignments

**Note:** Figures below can deviate slightly from the actual situation, due to the different set executions.

**General:** The Service Default Mode (SDM) and Service Alignment Mode (SAM) are described in chapter 5. Menu navigation is done with the Cursor Up, Down, Left or Right keys of the remote control transmitter.

## 8.1 General Alignment Conditions

Perform all electrical adjustments under the following conditions:
Mains voltage and frequency: 100-240 V / 50/60 Hz.
Allow the set to warm up for approximately 10 minutes.
Test probe: Ri > 10 MΩ; Ci < 2.5 pF.

## 8.2 Hardware Alignments

There are no hardware alignments foreseen for the plasma-TV.

## 8.3 Software Alignments

With the software alignments of the Service Alignment Mode (SAM) the geometry, white tone and tuner (IF) can be aligned. To store the data: Use the RC button Menu to switch to the main menu and next, switch to 'Stand-by' mode.

---

### 8.3.1 SAM Menu

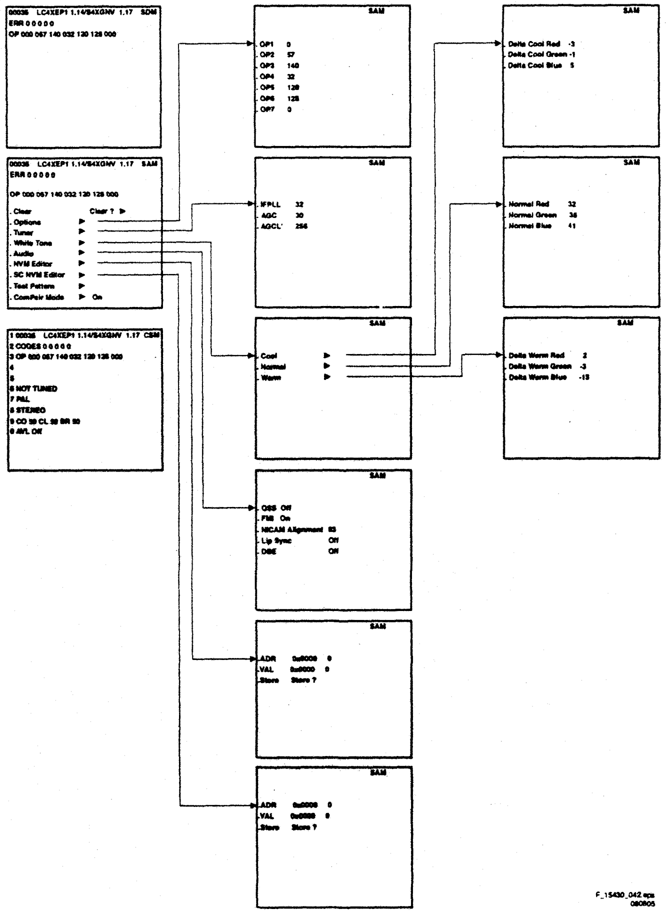
00035 LC4XEP1 1.14/S4XGNV 1.17 SDM
ERR 0 0 0 0 0
OP 000 067 140 032 120 128 000
00035 LC4XEP1 1.14/S4XGNV 1.17 SAM
ERR 0 0 0 0 0
OP 000 067 140 032 120 128 000
. Clear Clear ? ▶
. Options ▶
. Tuner ▶
. White Tone ▶
. Audio ▶
. NVM Editor ▶
. SC NVM Editor ▶
. Test Pattern ▶
. ComPair Mode ▶ On
1 00035 LC4XEP1 1.14/S4XGNV 1.17 CSM
2 CODES 0 0 0 0 0
3 OP 000 067 140 032 120 128 000
4
5
6 NOT TUNED
7 PAL
8 STEREO
9 CO 50 CL 50 BR 50
0 AVL Off
SAM
. OP1 0
. OP2 57
. OP3 140
. OP4 32
. OP5 128
. OP6 128
. OP7 0
SAM
. IFPLL 32
. AGC 30
. AGCL' 256
SAM
. Cool ▶
. Normal ▶
. Warm ▶
SAM
. OSS Off
. FMI On
. NICAM Alignment 83
. Lip Sync Off
. DBE Off
SAM
. ADR 0x0000 0
. VAL 0x0000 0
. Store Store ?
SAM
. ADR 0x0000 0
. VAL 0x0000 0
. Store Store ?
SAM
. Delta Cool Red -3
. Delta Cool Green -1
. Delta Cool Blue 5
SAM
. Normal Red 32
. Normal Green 36
. Normal Blue 41
SAM
. Delta Warm Red 2
. Delta Warm Green -3
. Delta Warm Blue -13
F_15430_042.eps
080805

Figure 8-1 Overview SAM menu.

### 8.3.2 Tuner Adjustment

AGC (RF AGC Take Over Point)
- Activate the SAM menu.
- Go to the sub-menu Tuner.
- Select the AGC sub-menu.
- Adjust the AGC value to AGC = 27.
- Adjust the AGC L' value to AGC L' = 27 (Europe only).
- Adjust the IFPLL value to IFPLL = 32 (Europe only).
- Switch the set to standby to store the data.

### 8.3.3 DCXO (Digital Xtal Oscillator) Alignment (for NICAM sets only)

- Input a Colour bar signal with a colour subcarier frequency of 4.43 MHz on SCART1 or SCART2.
- Select as a signal source EXT1 or AV1.
- Go to the SAM menu and select Audio.
- Activate DCXO Alignment and wait until this process has finished (DONE).
- Check if the NICAM audio reception is OK, if not: repeat the procedure.
- Switch the set to standby to store the data.

### 8.3.4 ADC Gain and Grey Scale Alignment

The table below shows a number of NVM settings used for each model of TV set. Be sure to use the correct editor in the SAM menu (NVM Editor or SC NVM Editor), because the first one is used for the Hercules NVM, and the second one for the SCALER (SC) part of the TV set. For further important NVM settings, see also the other NVM tables elsewhere in this manual.

**Caution:**

- **Do not change the NVM settings without understanding the function of each setting, because incorrect NVM settings may seriously hamper the correct functioning of the TV set!**
- **Do not change the Scaler NVM settings, as this will hamper the DVI functionality of the TV set!**
- Always note down the existing NVM settings, before changing the settings. This will enable you to return to the orgininal settings, if the new settings turn out to be incorrect.

**Table 8-1 ADC gain and grey scale alignment**

| SDTV ADC Gain settings: Use the NVM Editor in SAM to set these values in the Hercules NVM | | | | | |
|---|---|---|---|---|---|
| | | These models are with ADC & Columbus 3D Combfilter | | | |
| Setting | Hercules NVM Address (decimal value) | 50PF7320/10 | 42PF7320/10 | 42PF5320/10 | Settings Range (decimal value) |
| NVM_ADC_GAIN_R | 006 | 143 | 143 | 143 | 075 - 155 |
| NVM_ADC_GAIN_G | 007 | 191 | 191 | 191 | 200 - 250 |
| NVM_ADC_GAIN_B | 008 | 143 | 143 | 143 | 075 - 155 |

| SDTV Greyscale settings: Use the SC NVM Editor in SAM to set these values in the Scaler NVM | | | | | |
|---|---|---|---|---|---|
| | | These models are with ADC & Columbus 3D Combfilter | | | |
| Setting | Scaler NVM Address (decimal value) | 50PF7320/10 | 42PF7320/10 | 42PF5320/10 | Settings Range (decimal value) |
| ADC_RED_OFFSET2 | 338 | 080 | 080 | 080 | 050 - 110 |
| ADC_GRN_OFFSET2 | 339 | 080 | 080 | 080 | 050 - 110 |
| ADC_BLU_OFFSET2 | 340 | 080 | 080 | 080 | 050 - 110 |
| ADC_RED_GAIN | 341 | 154 | 154 | 154 | 045 - 095 |
| ADC_GRN_GAIN | 343 | 154 | 154 | 154 | 045 - 095 |
| ADC_BLU_GAIN | 345 | 154 | 154 | 154 | 045 - 085 |
| | | | | | |
| PC Greyscale settings | | | | | |
| | | These models are with ADC & Columbus 3D Combfilter | | | |
| Setting | Scaler NVM Address (decimal value) | 50PF7320/10 | 42PF7320/10 | 42PF5320/10 | Settings Range (decimal value) |
| ADC_RED_OFFSET2 | 325 | 080 | 080 | 080 | 040 - 090 |
| ADC_GRN_OFFSET2 | 326 | 080 | 080 | 080 | 040 - 090 |
| ADC_BLU_OFFSET2 | 327 | 080 | 080 | 080 | 040 - 090 |
| ADC_RED_GAIN | 328 | 154 | 154 | 154 | 180 - 270 |
| ADC_GRN_GAIN | 330 | 154 | 154 | 154 | 180 - 270 |
| ADC_BLU_GAIN | 332 | 154 | 154 | 154 | 180 - 270 |
| | | | | | |
| HD Greyscale settings | | | | | |
| | | These models are with ADC & Columbus 3D Combfilter | | | |
| Setting | Scaler NVM Address (decimal value) | 50PF7320/10 | 42PF7320/10 | 42PF5320/10 | Settings Range (decimal value) |
| ADC_RED_OFFSET2 | 351 | 064 | 064 | 064 | 050 - 090 |
| ADC_GRN_OFFSET2 | 352 | 082 | 082 | 082 | 050 - 090 |
| ADC_BLU_OFFSET2 | 353 | 064 | 064 | 064 | 050 - 090 |
| ADC_RED_GAIN | 354 | 159 | 159 | 159 | 120 - 200 |
| ADC_GRN_GAIN | 356 | 144 | 144 | 144 | 120 - 200 |
| ADC_BLU_GAIN | 358 | 147 | 147 | 147 | 120 - 200 |

### 8.3.5 Sound

- For NICAM sets: see paragraph 8.3.3.
- For other sets: No adjustments needed for sound.

### 8.3.6 Options

Options OP1...OP7 in the SAM menu can be used for quickly restoring 64 features or settings of the HERCULES part of the TV set to their orginal default factory values (8 groups of 8 features/settings each). When the decimal value of one option byte OP1...OP7 is changed (see the first table below) then a group of 8 bits, representing 8 HERCULES options or features, is changed as well (see the second table below for a detailed description of the features or settings that are changed).
The second table shows which option byte (OP1...OP7) represents which group of 8 option bits. Each bit (0...7) switches a particular HERCULES feature or setting ON or OFF, depending on its value (1 or 0).
It is also possible to change the features or settings mentioned in the second table directly at bit level, by means of the NVM Editor in the SAM menu. In the NVM Editor, first the correct NVM address (ADR) has to be entered, then the correct value (VAL, 1 or 0) for each bit (see second table), and finally the settings have to be stored (STORE). For quickly restoring the HERCULES part of the TV set to its original factory settings, however, it is more convenient to simply enter the default factory settings OP1...OP7 that are given in the first table below. How to do this, is described in the next paragraph.

***How to Change an Option Byte***

As has been explained above, an Option byte (OP) represents a number of different HERCULES options. Changing these bytes directly makes it possible to set all HERCULES options very fast. All options are controlled via seven option bytes. Select the option byte (OP1.. OP7) with the Menu Up/ Down keys, and enter the new (decimal) value. For the correct Factory Default settings, see the first table below. For more detailed information, see the second table.

Leaving the Option submenu saves the changes in the Option Byte settings. Some changes will only take effect after the set has been switched "off" and "on" with the AC power switch (cold start).

**Table 8-2 Option codes OP1...OP7**

| Option table for quickly restoring the HERCULES to its Factory Default settings | | | |
|---|---|---|---|
| Model number | 50PF7320/10 | 42PF7320/10 | 42PF5320/10 |
| OP1 | 152 | 152 | 152 |
| OP2 | 37 | 37 | 37 |
| OP3 | 79 | 79 | 15 |
| OP4 | 241 | 241 | 241 |
| OP5 | 252 | 252 | 252 |
| OP6 | 27 | 27 | 27 |
| OP7 | 19 | 19 | 19 |
| Options (can be changed only via the SAM menu) | Total decimal value for each option per model number | | |

***How to Change Options at Bit Level***

If you wish to know which features or settings of the HERCULES are changed via OP1...OP7, or if you want to change each option or feature bit by bit, use the more detailed table below.
**Note:** the table below contains only part of the NVM settings that can be changed. A second range of settings and features can be found in Chapter 5 of this manual, in table **NVM Default values**. The settings mentioned there can only be changed via the NVM editor. For further settings, see also the table "ADC Gain and Grey scale alignment" elsewhere in this manual.

**Table 8-3 Option codes in detail, at bit level**

| Option byte & bit table for restoring the TV set to its original Factory Default settings via the NVM Editor in the SAM menu | | | | |
|---|---|---|---|---|
| | Model number | 50PF7320/10 | 42PF7320/10 | 42PF5320/10 |
| **OP1** | **Description of feature/option to be switched ON or OFF** | | | |
| bit 7 (msb) | OP_PHILIPS_TUNER | 1 | 1 | 1 |
| bit 6 | OP_FM_RADIO | 0 | 0 | 0 |
| bit 5 | OP_LNA | 0 | 0 | 0 |
| bit 4 | OP_ATS // for EU | 1 | 1 | 1 |
| bit 3 | OP_ACI | 1 | 1 | 1 |
| bit 2 | OP_UK_PNP | 0 | 0 | 0 |
| bit 1 | OP_VIRGIN_MODE | 0 | 0 | 0 |
| bit 0 (lsb) | OP_CHINA | 0 | 0 | 0 |
| | Total DEC Value | 152 | 152 | 152 |
| | Total HEX Value | 98 | 98 | 98 |
| **OP2** | | | | |
| bit 7 (msb) | OP_SC | 0 | 0 | 0 |
| bit 6 | OP_IBEX | 0 | 0 | 0 |
| bit 5 | OP_CHANNEL_NAMING | 1 | 1 | 1 |
| bit 4 | OP_LTI (Lum Transcient Improvmt) | 0 | 0 | 0 |
| bit 3 | OP_TILT | 0 | 0 | 0 |
| bit 2 | OP_FINE_TUNING | 1 | 1 | 1 |
| bit 1 | OP_PIP_PHILIPS_TUNER | 0 | 0 | 0 |
| bit 0 (lsb) | OP_HUE | 1 | 1 | 1 |
| | Total DEC Value | 37 | 37 | 37 |
| | Total HEX Value | 25 | 25 | 25 |
| **OP3** | | | | |
| bit 7 (msb) | OP_EW_FUNCTION | 0 | 0 | 0 |
| bit 6 | OP_PIXEL_PLUS | 1 | 1 | 0 |
| bit 5 | OP_PIP_SPLITTER // temp | 0 | 0 | 0 |
| bit 4 | OP_SPLITTER // temp | 0 | 0 | 0 |
| bit 3 | OP_VIRTUAL_DOLBY | 1 | 1 | 1 |
| bit 2 | OP_WIDE_SCREEN | 1 | 1 | 1 |
| bit 1 | OP_WSSB | 1 | 1 | 1 |
| bit 0 (lsb) | OP_OP_ME5 // OP_ME5 - 5/6 local buttons implementation | 1 | 1 | 1 |
| | Total DEC Value | 79 | 79 | 15 |
| | Total HEX Value | 4F | 4F | 0F |
| **OP4** | | | | |
| bit 7 (msb) | OP_LIP_SYNC | 1 | 1 | 1 |
| bit 6 | OP_HD | 1 | 1 | 1 |
| bit 5 | OP_ULTRA_BASS | 1 | 1 | 1 |
| bit 4 | OP_DELTA_VOLUME | 1 | 1 | 1 |
| bit 3 | OP_TAIWAN_KOREA | 0 | 0 | 0 |
| bit 2 | OP_VOLUME_LIMITER | 0 | 0 | 0 |
| bit 1 | OP_STEREO_DBX | 0 | 0 | 0 |
| bit 0 (lsb) | OP_STEREO_NICAM_2CS | 1 | 1 | 1 |
| | Total DEC Value | 241 | 241 | 241 |
| | Total HEX Value | F1 | F1 | F1 |
| **OP5** | | | | |
| bit 7 (msb) | OP_AV1 | 1 | 1 | 1 |
| bit 6 | OP_AV2 | 1 | 1 | 1 |
| bit 5 | OP_AV3 | 1 | 1 | 1 |
| bit 4 | OP_CVI | 1 | 1 | 1 |
| bit 3 | OP_SVHS2 | 1 | 1 | 1 |
| bit 2 | OP_SVHS3 | 1 | 1 | 1 |
| bit 1 | OP_HOTEL_MODE | 0 | 0 | 0 |
| bit 0 (lsb) | OP_SIMPLY_FACTORY=OP_BTSC_AVSTEREO | 0 | 0 | 0 |
| | Total DEC Value | 252 | 252 | 252 |
| | Total HEX Value | FC | FC | FC |
| **OP6** | | | | |
| bit 7 (msb) | OP_PERSONAL_ZAPPING | 0 | 0 | 0 |
| bit 6 | OP_SMART_SURF | 0 | 0 | 0 |
| bit 5 | OP_FMTRAP | 0 | 0 | 0 |
| bit 4 | OP_COMBFILTER | 1 | 1 | 1 |
| bit 3 | OP_ACTIVE_CONTROL | 1 | 1 | 1 |
| bit 2 | OP_VIDEO_TEXT | 0 | 0 | 0 |
| bit 1 | OP_LIGHT_SENSOR | 1 | 1 | 1 |
| bit 0 (lsb) | OP_TWIN_TEXT | 1 | 1 | 1 |
| | Total DEC Value | 27 | 27 | 27 |
| | Total HEX Value | 1B | 1B | 1B |
| **OP7** | | | | |
| bit 7 (msb) | OP_TIME_WIN1 | 0 | 0 | 0 |
| bit 6 | OP_DVB_USB = OP_MALAY | 0 | 0 | 0 |
| bit 5 | OP_AMBILIGHT | 0 | 0 | 0 |
| bit 4 | OP_COLUMBUS | 1 | 1 | 1 |
| bit 3 | OP_DUMMY6 | 0 | 0 | 0 |
| bit 2 | OP_DUMMY7 | 0 | 0 | 0 |
| bit 1 | OP_WEST_EU | 1 | 1 | 1 |
| bit 0 (lsb) | OP_MULTI_STANDARD_EUR | 1 | 1 | 1 |
| | Total DEC Value | 19 | 19 | 19 |
| | Total HEX Value | 03 | 03 | 03 |

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# 9. Circuit Descriptions, Abbreviation List, and IC Data Sheets

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9.1 Introduction
9.2 Block Diagram
9.3 Input/Output
9.4 Tuner and IF
9.5 Video: TV Part (Diagrams B1, B2, and B3)
9.6 Columbus
9.7 Video: Scaler Part (Diagram B7, B8 and B9)
9.8 Audio Processing
9.9 Control
9.10 Abbreviation List
9.11 IC Data Sheets

## 9.1 Introduction

The "LC4.9 Plasma TV" is a global plasma TV for the year 2005. It is the successor of the "LC4.7" and has a screen size of 42 inch or 50 inch (in 16:9 ratio); it has a new styling, called Entry+ 05. There are two different picture qualities available, depending on the model: Pixel Plus and Digital Crystal Clear. The block diagram below (Figure "Block diagram") shows the Pixel Plus architecture; the architecture of the Digital Crystal Clear model is shown in the block diagram on the next page (Figure "Block diagram of the internal building blocks").

The architecture consists of a TV and Scaler panel, an EPLD (only in the Pixel Plus model), an I/O panel, a Side I/O and Local Keyboard panel and a Power Supply panel.
The functions for video/audio processing, microprocessor (μP), and CC/Teletext (TXT) decoder are all combined in one IC (TDA150xx, item 7217), the so-called third generation Ultimate One Chip (UOC-III) or "Hercules". This chip has the following features:

- Control, small signal, mono/stereo, and extensive Audio/Video switching in one IC.
- Upgrade with digital sound & video processing.
- Alignment free IF, including SECAM-L/L1 and AM.
- FM sound 4.5/5.5/6.0/6.5, no traps/bandpass filters.
- Full multi-standard colour decoder.
- One Xtal reference for all functions (microprocessor, RCP, TXT/CC, RDS, colour decoder, and stereo sound processor).

## 9.2 Block Diagram

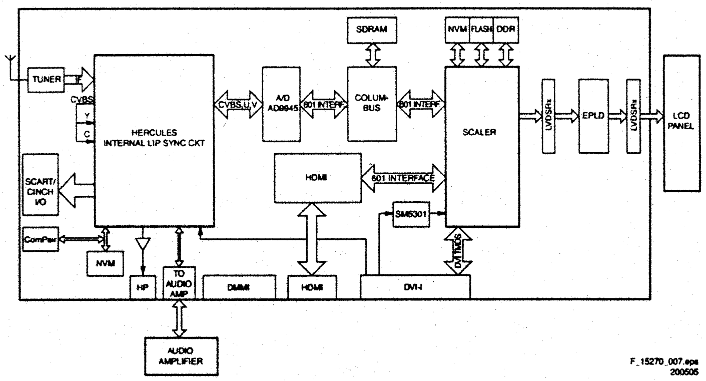


Figure 9-1 Block Diagram

The PLL tuner UV1318 delivers the IF-signal, via audio & video SAW-filters, to the Video Signal Processor and FLASH embedded TEXT/Control/Graphics Micro Controller TDA120x1 (item 7011, also called Hercules). This IC has the following functions:

- Analogue Video Processing
- Sound Demodulation
- Audio Interfaces and switching
- Volume and tone control for loudspeakers
- Reflection and delay for loudspeaker channels
- Micro Controller
- Data Capture
- Display

The Hercules has one input for the internal CVBS signal and a video switch with 3 external CVBS inputs and a CVBS output. All CVBS inputs can be used as Y-input for Y/C signals. However, only 2 Y/C sources can be selected because the circuit has 2 chroma inputs. It is possible to add an additional CVBS(Y)/C input (CVBS/YX and CX) when the YUV interface and the RGB/YPRPB input are not needed. Two SCART-connectors are used: SCART1 is for RGB-in, video in (CVBS) and terrestrial out (CVBS), and SCART2 is meant for VCR (CVBS out and Y/C in). The CVBS-out on pin 19 of SCART2 can be used for monitoring purposes: WYSIWYR (What You See Is What You Record).
Depending on the model of the TV set, the Hercules delivers its RGB signals either directly to the Scaler IC or indirectly, via a Columbus chip (for 2D/3D comb filtering and spatial/temporal noise reduction, for its description: see further down in this text). The EPLD, which is present in Pixel Plus models, provides additional sharpening to the picture. For a general outline, see the table and the block diagrams below, in which the architectures of the various models are given, together with their electronic building blocks.

**Table 9-1 Models and picture quality**

| Model | Picture quality |
|---|---|
| 50PF7320/10 | Pixel Plus |
| 42PF7320/10 | Pixel Plus |
| 42PF5320/10 | Digital Crystal Clear |

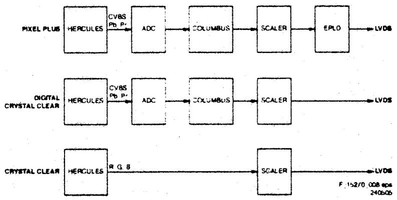


Figure 9-2 Block diagram of the internal building blocks

The Genesis GM1501 Malibu Scaler IC can receive two video input signals: SDTV (directly from Hercules or via Columbus), DVI (from an external DVI source), or PC (from external computer).
After the video processing, the digital data is sent via a Low Voltage Differential Signalling bus to the LCD panel. LVDS is used to improve data speed and to reduce EMI significantly.
There are two I$^2$C lines and two interrupt and communication lines (TV_IRQ and TV_SC_COM) for the Scaler control. The Scaler communicates with the Hercules as a slave device. To avoid buffer overflow at the Scaler side, the TV_SC_COM line provides the necessary hardware flow control. To allow bi-directional communication, the Scaler can initiate a service interrupt-request to the Hercules via the TV_IRQ line.

The Hercules, and EEPROM are supplied with 3.3 V, which is also present during STANDBY.
The EEPROM, or NVM (Non Volatile Memory) is used to store the settings.

The sound part is built up around the Hercules. The Source Selection, Decoding and Processing are all done by the Hercules.

Power supply input are several DC voltages coming from a supply panel.

## 9.3 Input/Output

The I/O is divided over two parts: Rear I/O and Side I/O. The rear has two SCART inputs, a PC/DVI-I input (VGA to DVI-I via an external adaptor) and an Audio input. The side has a CVBS and Y/C (SVHS) input, combined with L+R audio inputs, and has also a headphone output.

**EXT1**: The input of SCART1 is CVBS + RGB + L/R and the output is the video (+ sound) signal from the tuner (SC1_CVBS_RF_OUT).

**EXT2**: The input of SCART2 is Y/C + CVBS + L/R. The output signal is CVBS_SC2_MON_OUT (+ sound).
SCART2 is meant for VCR and has therefore some additional signals in relation to EXT1 but no RGB: it has the possibility for Y/C_in: Y_in on pin 20 and Chroma_in on pin 15.
The selection of the external I/O's is controlled by the Hercules.

**PC in (DVI-I, or VGA via external VGA to DVI-I adaptor):** This input is directly going to the Scaler IC. See paragraph "Video: Scaler Part".

## 9.4 Tuner and IF

A Philips UV1318 Tuner is used in the TV board. The SIF signals are decoded by the Hercules. Tuning is done via I$^2$C.

### 9.4.1 Video IF Amplifier

The IF-filter is integrated in a SAW (Surface Acoustic Wave) filter. One for filtering IF-video (1104, in some models: 1105) and one for IF-audio (1106). The type of these filters depends on the standard(s) that has/have to be received.

The output of the tuner is controlled via an IF-amplifier with AGC-control. This is a voltage feedback from pin 31 of the Hercules to pin 1 of the tuner. The AGC-detector operates on top sync and top white level. AGC take-over point is adjusted via the service alignment mode 'Tuner' - 'AGC'. If there is too much noise in the picture, then it could be that the AGC setting is wrong. The AGC-setting could also be mis-aligned if the picture deforms with perfect signal; the IF-amplifier amplifies too much.

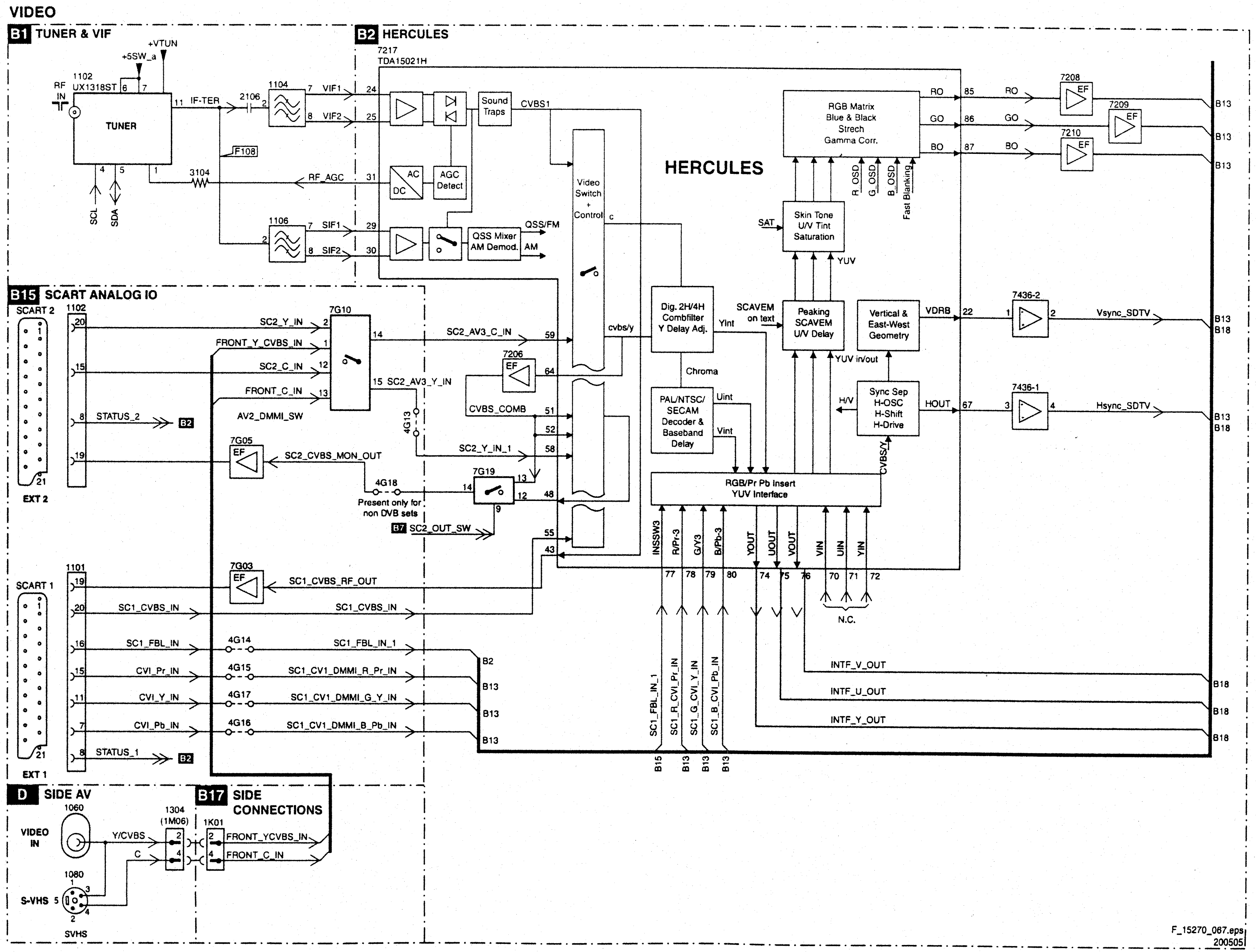

VIDEO
B1 TUNER & VIF
+VTUN
+5SW_a
1102
UX1318ST
RF IN
TUNER
IF-TER
2106
1104
VIF1
VIF2
F108
3104
RF_AGC
SCL
SDA
1106
SIF1
SIF2
B2 HERCULES
7217
TDA15021H
Sound Traps
CVBS1
AC DC
AGC Detect
QSS Mixer AM Demod.
QSS/FM
AM
Video Switch + Control
HERCULES
RGB Matrix Blue & Black Strech Gamma Corr.
R_OSD
G_OSD
B_OSD
Fast Blanking
RO
GO
BO
SAT
Skin Tone U/V Tint Saturation
YUV
Dig. 2H/4H Combfilter Y Delay Adj.
Yint
SCAVEM on text
Peaking SCAVEM U/V Delay
YUV in/out
Vertical & East-West Geometry
VDRB
Chroma
PAL/NTSC/ SECAM Decoder & Baseband Delay
Uint
Vint
H/V
Sync Sep H-OSC H-Shift H-Drive
HOUT
CVBS/Y
RGB/Pr Pb Insert YUV Interface
INSSW3
R/Pr-3
G/Y3
B/Pb-3
YOUT
UOUT
VOUT
VIN
UIN
YIN
N.C.
7208
7209
7210
EF
7436-2
Vsync_SDTV
7436-1
Hsync_SDTV
B13
B18
INTF_V_OUT
INTF_U_OUT
INTF_Y_OUT
SC1_FBL_IN_1
SC1_R_CVI_Pr_IN
SC1_G_CVI_Y_IN
SC1_B_CVI_Pb_IN
B15
B15 SCART ANALOG IO
SCART 2
EXT 2
7G10
SC2_Y_IN
FRONT_Y_CVBS_IN
SC2_C_IN
FRONT_C_IN
AV2_DMMI_SW
SC2_AV3_C_IN
SC2_AV3_Y_IN
7206
cvbs/y
CVBS_COMB
4G13
SC2_Y_IN_1
STATUS_2
B2
7G05
SC2_CVBS_MON_OUT
4G18
Present only for non DVB sets
7G19
B7 SC2_OUT_SW
SCART 1
EXT 1
1101
7G03
SC1_CVBS_RF_OUT
SC1_CVBS_IN
SC1_FBL_IN
4G14
CVI_Pr_IN
4G15
SC1_CV1_DMMI_R_Pr_IN
CVI_Y_IN
4G17
SC1_CV1_DMMI_G_Y_IN
CVI_Pb_IN
4G16
SC1_CV1_DMMI_B_Pb_IN
STATUS_1
D SIDE AV
1060
VIDEO IN
Y/CVBS
C
1080
S-VHS
SVHS
1304 (1M06)
B17 SIDE CONNECTIONS
1K01
FRONT_YCVBS_IN
FRONT_C_IN
F_15270_067.eps
200505

Figure 9-3 Block diagram video processing

The video processing is completely handled by the Hercules

- IF demodulator.
- Chrominance decoder
- Sync separator.
- Horizontal & vertical drive.
- RGB processing.
- CVBS and SVHS source select.

It has also built-in features like:

- CTI.
- Black stretch.
- Blue stretch.
- White stretch.
- Slow start up.
- Dynamic skin tone correction etc.

Further, it also incorporates sound IF traps and filters, and requires only one crystal for all systems.

## 9.6 Columbus

### 9.6.1 Introduction

The Columbus is a combination of:

- A **2D/3D Comb filter** for both PAL and NTSC, and
- A **spatial/temporal noise reduction system** for both colour and luminance signals.

The Columbus 3D Comb filter uses digitalised CVBS, U, and V (or C) signals and can be used with or without an external 16 Mbit SDRAM. Without external 16Mbit SDRAM, 3D comb filtering and temporal noise reduction are not possible.

The noise reduction part of the Columbus is controlled by the FBX software using the SNERT interface. The 2D/3D Comb filter part is controlled by the Main software using the I²C bus.

### 9.6.2 2D/3D Comb Filter

***Introduction***

The “3D Comb filter Columbus” is a combined 2D/3D Comb filter function that is part of the Columbus chip (circuit diagram B19, item 7M00). It is a comb filter for both PAL and NTSC.

The 3D Comb filter is used to separate chroma and luminance components out of a CVBS signal. It is of no use when the CVBS signal is a SECAM signal (SECAM signals cannot be combed) The Columbus chip can be used with or without 16 Mbit external SDRAM (circuit diagram B10, item 7B01). When an external SDRAM is connected to the IC, the Comb filter function can work in combined 2D/3D processing (depending on the detected pixel based motion). When no external SDRAM is connected, only 2D Comb filtering is possible.

The Columbus can comb the following standard signals:

- PAL B, PAL G, PAL H, PAL I, PAL D, PAL K: Colour standard PAL, Colour carrier at 4.43 MHz, field frequency: 50 Hz
- PAL M: Colour standard PAL, Colour carrier at 3.58 MHz, field frequency: 60 Hz
- PAL N: Colour standard PAL, Colour carrier at 3.58 MHz, field frequency: 50 Hz
- NTSC M: Colour standard NTSC, Colour carrier at 3.58 MHz, field frequency: 60 Hz

For NTSC signals, the PAL delay line must always be bypassed.

The following signals CANNOT be combed:

- Double Window signals or Multi PIP. For these signals, only one part or even no part of the signal is in relation with the burst. The part that is not in relation with the burst can become very blurred when combed by the Columbus Comb filter. Such a signal must be bypassed. Notch mode is not even an option since e.g. in double window, one part can be a PAL signal while the other part is NTSC or SECAM.
- In cases where a SECAM signal is presented to the Columbus Comb filter; both the luminance and UV path must be bypassed. The PAL delay line inside the Columbus cannot be used for SECAM signals so it must also be bypassed. The luminance path must have luminance at its input instead of CVBS. A chroma delay line outside Columbus must be used for SECAM signals. Reason for this: the Columbus PAL delay line halves the output of the chroma signals in case of SECAM.
- Y/C, YPbPr, and RGB signals do not have to be combed. So both the luminance and UV path must be bypassed. The PAL delay line will also be bypassed.
- In cases where the Columbus Comb filter does not receive a CVBS signal with burst at the right place according to the standard (this includes black and white signals without burst), phase correction results become unpredictable and the Comb filter must be set in bypass (= luminance path bypassed, UV path bypassed, PAL delay line bypassed)
- VCR signals cannot be combed and must be processed in notch mode, or bypassed.

***Columbus Modes***

The several modes of the Columbus 3D Comb filter are:

- Bypass mode.
- Band-Pass-Notch mode.
- 2D Comb filter modes.
  - Simple median.
  - Median.
- Field Comb filter mode.
- Frame Comb filter mode.

*Bypass Mode*

The 3D Comb filter can be set in bypass mode. In this mode, the CVBS, U and V signals are just bypassed to the output.

*Band-Pass-Notch Mode*

This is a mode where no Comb filtering is applied. A “Band Pass Filter” is used to filter the chroma information out of the CVBS signal. A “Notch Filter” is used to subtract the sub carrier out of the CVBS in order to make a luminance signal without chroma sub carrier.

In terms of cross colour and cross luminance, this mode has the worst performance of all. It is only used on these signals where no comb filtering can be applied (non-standard signals and most VCR signals for example).

*2D Comb Filter Modes*

A Comb filter does an action on a current pixel and a delayed pixel. When the delayed pixel is a line-delayed pixel, we talk about a “Spatial or 2D Comb Filter” (for NTSC the delay must be 1 line, for PAL it must be 2 lines).

Spatial or 2D Comb filters show problems on vertical colour transients and on single coloured lines. For these situations, extra hardware is added in the Columbus chip to avoid these kinds of problems. However even with these extra measures, there are still situations where the 2D Comb filter does not perform optimally (diagonal resolution and single lines with equal luminance content). In order to restrict the working area of the 2D Comb filter to the frequencies where the sub carrier is present, a horizontal band pass filter always precedes a 2D Comb filter.

When a 2D Comb filter has no extra hardware to avoid problems at vertical colour transients (or this extra hardware is switched “off”), the Comb filter is called a “simple median filter”. When there is extra hardware to avoid these kinds of problems, the filter is called a “median filter”.

*Field Comb Filter Mode*

A Comb filter does an action on a current pixel and a delayed pixel. When the delayed pixel is a field-delayed pixel, we talk about a “Field Comb Filter”. Field Comb filters are only for PAL of commercial interest.

Field Comb filters show also problems on vertical colour transients and on motion. For the vertical transients, a hanging dots detector has been added, however the performance on vertical transients of the field Comb filter, even with this hanging dots detector, is worse than the performance of the 2D Comb filter. On motion, the field Comb filter performs very badly. A motion detector must detect the pixels where there is motion and on these pixels, the Comb filter must be forced back to 2D Comb filter mode. This switching back is not implemented with a hard switch, but with a motion controlled fader. When there is a lot of motion, the fader will take a lot of the 2D Comb filter output, when there is less motion, more field-combed signal will be taken.

A field Comb filter is also called a “vertical-temporal filter” because it filters in the vertical and temporal direction.

*Frame Comb Filter Mode*

A Comb filter does an action on a current pixel and a delayed pixel. When the delay is a frame, we talk about a “Frame Comb Filter”. For NTSC we need a delay of one frame, for PAL however the delay must be two frames.

Frame Comb filters have the best performance, but just like the Field Comb filter, they perform very badly on motion. A motion detector will have to detect motion and on these motion pixels, 2D Comb filtering will have to be applied. A frame Comb filter is a pure “temporal filter”.

The Columbus needs an external memory connected to it, before it can do a temporal or vertical-temporal Comb filter action. When no external memory is connected, field or frame Comb filtering is impossible.

***Block Diagram***

In the next block diagram, two main parts of the Columbus 2D/3D Comb filter can be seen:

- The upper part is what is called the luminance Comb filter. It tries to make an as clean as possible luminance signal out of the CVBS signal at the input.
- The lower part receives U and V signals (sequentially) that are normally only band pass filtered in front of the 3D Comb filter. It filters all left over luminance signals out of it, in order to make an as clean as possible U and V signal.

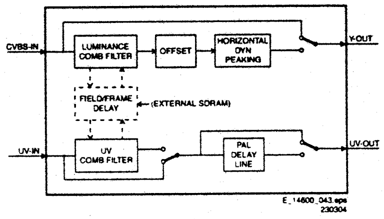


**Figure 9-4 Columbus 2D/3D Comb Filter block diagram**

The Comb filter has two inputs. One is the CVBS where clean luminance (Y) will be extracted from; the other one is UV where a clean U and V signal will be extracted. Both input signals are **digital** signals.

The field or frame delay is used for the Field and Frame Comb filter mode. An external memory connected to the Columbus IC provides this delay.

Phase correction is done at the inputs of both the Comb filter blocks. There is a phase correction for spatial filtering (called the spatial phase corrector) and a separate phase correction on the signals used for temporal (Frame or Field) Comb filtering (called the temporal phase corrector).

The offset block receives the motion dependant 2D/3D Comb filtered signal as input. The black level of the luminance signal is restored and the result is output. The black level restoration is corrected continuously. However, on VCR signals, this restoration can become unstable. Therefore, on VCR signals, a fixed black level restoration value must be forced.

A horizontal dynamic peaking can be done on the luminance signal. This peaking is adaptive in order not to amplify any cross luminance distortion. It detects where there could be left over sub carrier in the luminance signal and reduces the peaking over there. The detection of the left over cross luminance is different depending on the pre-filter or post-filter mode.

The amount of peaking and coring can be chosen. The peaking algorithm behind it is a simplified copy of the luminance peaking of picnic. After the peaking block, the signal is output as clean luminance.

The bypass switches have the obvious purpose of bypassing the input signal, in case no Comb filtering is wanted.

A PAL delay line is added in the UV path. This is done because a delay line in front of the 3D Comb filter does need an extra vertical filter action on the UV signals. This vertical filtering deteriorates the vertical transient performance for colours. The Columbus Comb filter cannot undo this. However, this reduction in performance can be omitted by putting the PAL delay line after the 3D Comb filter block.

For PAL signals, the PAL delay line in front of the Columbus 3D Comb filter is bypassed and the Columbus delay line is switched “on”. In cases where the delay line in front of Columbus cannot be bypassed, the Columbus PAL delay line is bypassed.

For NTSC signals, the PAL delay line is bypassed as usual.

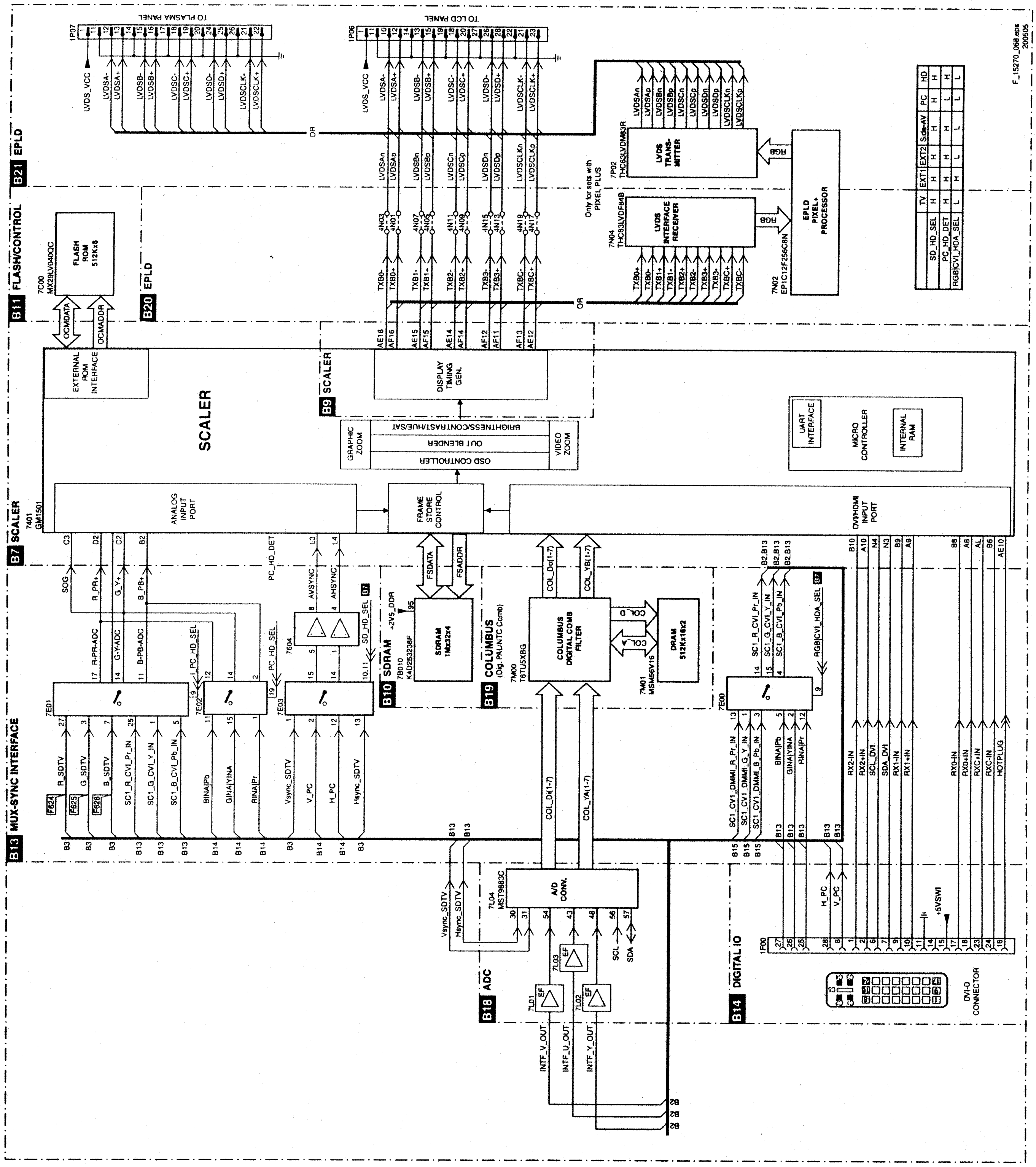
### 9.6.3 Noise Reduction and Noise Estimator

The noise reduction function is a sophisticated successor of the noise reduction module from the PICNIC-chip, also known as “LIMERIC”.

Besides the noise reduction part, the Columbus noise reduction module also comprises a noise estimator. This noise estimator (the LORE-noise estimator) is a new design with the ambition of more accuracy and with less control complexity than the existing noise estimators.

## 9.7 Video: Scaler Part (Diagram B7, B8 and B9)

The Genesis gm1501 Scaler is a dual channel graphics and video processing IC for LCD and plasma monitors and televisions incorporating Picture in Picture, up to SXGA output resolutions. The Scaler controls the display processing in an LCD or plasma TV, e.g. like the deflection circuit in a CRT-based TV. It controls all the view modes (e.g. like "zooming" and "shifting"). Features like PC (VGA) or HD inputs, are also handled by this part.


B13 MUX-SYNC INTERFACE
B7 SCALER
7401
GM1501
B11 FLASH/CONTROL
B21 EPLD
B20 EPLD
B9 SCALER
B10 SDRAM
B19 COLUMBUS
(Dig. PAL/NTC Comb)
B18 ADC
B14 DIGITAL IO
7E01
7E02
7E03
7E00
7604
R_SDTV
G_SDTV
B_SDTV
F624
F625
F626
SC1_R_CVI_Pr_IN
SC1_G_CVI_Y_IN
SC1_B_CVI_Pb_IN
BINA|Pb
GINA|YINA
RINA|Pr
Vsync_SDTV
V_PC
H_PC
Hsync_SDTV
R-PR-ADC
G-Y-ADC
B-PB-ADC
I_PC_HD_SEL
PC_HD_SEL
PC_HD_DET
SOG
R_PR+
G_Y+
B_PB+
AVSYNC
AHSYNC
SD_HD_SEL
ANALOG INPUT PORT
SCALER
EXTERNAL ROM INTERFACE
OCMDATA
OCMADDR
7C00
MX29LV040QC
FLASH ROM 512Kx8
GRAPHIC ZOOM
OSD CONTROLLER
OUT BLENDER
BRIGHTNESS/CONTRAST/HUE/SAT
VIDEO ZOOM
DISPLAY TIMING GEN.
FRAME STORE CONTROL
FSDATA
FSADDR
+2V5_DDR
7B010
K4D263238F
SDRAM 1Mx32x4
7M00
T6TU5XBG
COLUMBUS DIGITAL COMB FILTER
COL_Dı(1-7)
COL_YA(1-7)
COL_Do(1-7)
COL_YB(1-7)
COL_A
COL_D
7M01
MSM56V16
DRAM 512Kx16x2
7L04
MST9883C
A/D CONV.
7L01
7L02
7L03
EF
INTF_V_OUT
INTF_U_OUT
INTF_Y_OUT
SCL
SDA
SC1_CV1_DMMI_R_Pr_IN
SC1_CV1_DMMI_G_Y_IN
SC1_CV1_DMMI_B_Pb_IN
RGB|CVI_HDA_SEL
B2,B13
1F00
RX2-IN
RX2+IN
SCL_DVI
SDA_DVI
RX1-IN
RX1+IN
+5VSWI
RX0-IN
RX0+IN
RXC+IN
RXC-IN
HOTPLUG
DVI-D CONNECTOR
DVI/HDMI INPUT PORT
UART INTERFACE
MICRO CONTROLLER
INTERNAL RAM
TXB0-
TXB0+
TXB1-
TXB1+
TXB2-
TXB2+
TXB3-
TXB3+
TXBC-
TXBC+
LVDSAn
LVDSAp
LVDSBn
LVDSBp
LVDSCn
LVDSCp
LVDSDn
LVDSDp
LVDSCLKn
LVDSCLKp
LVDS_VCC
LVDSA-
LVDSA+
LVDSB-
LVDSB+
LVDSC-
LVDSC+
LVDSD-
LVDSD+
LVDSCLK-
LVDSCLK+
1P07
TO PLASMA PANEL
1P06
TO LCD PANEL
OR
Only for sets with PIXEL PLUS
7N04
THC63LVDF84B
LVDS INTERFACE RECEIVER
7P02
THC63LVDM83R
LVDS TRANS-MITTER
RGB
7N02
EP1C12F256C8N
EPLD PIXEL+ PROCESSOR
F_15270_068.eps
200505

|  | TV | EXT1 | EXT2 | Side-AV | PC | HD |
|---|---|---|---|---|---|---|
| SD_HD_SEL | H | H | H | H | H | H |
| PC_HD_DET | H | H | H | H | L | H |
| RGB\|CVI_HDA_SEL | L | H | L | L | L | L |

Figure 9-5 Block diagram scaler part

### 9.7.1 Teletext Path

In Pixel Plus and Digital Crystal Clear models, which have an ADC (B18) and Columbus 3D combfilter (B19), the digital input of the scaler is used for the digital video signal (Columbus output), whereas the analogue RGB input input of the scaler is used for teletext. This means that no mixed mode (video plus teletext simultaneously) is possible. In Crystal Clear models, which do not have an ADC and Columbus, the analogue RGB input of scaler is used for both video and teletext (generated by the Hercules). The digital input of the Scaler is not used in Crystal Clear TV sets. See also the block diagrams at the beginning of this chapter. When faultfinding, checking the teletext path may be useful: if there is sound and teletext, but no video and user menu (blank screen), the digital path (Hercules - ADC - Columbus - Scaler) is faulty. If there is sound but no teletext, the back-end part (Scaler - LCD panel) is faulty.

### 9.7.2 Features

The Scaler provides several key IC functions:

- Scaling.
- Auto-configuration/ Auto-Detection.
- Various Input Ports:
  - Analog RGB.
  - Video Graphics.
- Integrated LVDS Transmitter.
- On-chip Micro-controller

### 9.7.3 Inputs

***Analog RGB***

The RGB input is fed to pins B2, C2 and D2 of the Scaler IC (Genesis GM1501, item 7801, see circuit diagram B8). This input consists of either the Hercules RGB output or the RGB/ YpbPr input of the VGA connector. The Scaler can switch between the two signals via the PC_HD_SEL signal and selection IC SM5301 (see circuit diagram B13).

***PC (VGA) Input***

The VGA input is processed by the VGA block of the Scaler. The Scaler supports pixel frequencies up to 165MHz. YpbPr format is also supported via the VGA interface and covers a resolution of 480p/560p/720p/1080i.

### 9.7.4 Output

The Display Output Port provides data and control signals that permit the Scaler to connect to a variety of display devices using a TTL or LVDS interface. The output interface is configurable for single or dual wide TTL/LVDS in 18, 24 or 30-bit RGB pixels format. All display data and timing signals are synchronous with the DCLK output clock. The integrated LVDS transmitter is programmable to allow the data and control signals to be mapped into any sequence depending on the specified receiver format.

## 9.8 Audio Processing

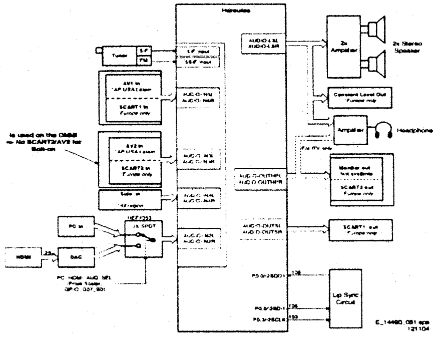


Figure 9-6 Block diagram audio processing

The audio decoding is done entirely via the Hercules. The IF output from the Tuner is fed directly to either the Video-IF or the Sound-IF input depending on the type of concept chosen. There are mainly two types of decoder in the Hercules, an analogue decoder that decodes only Mono, regardless of any standards, and a digital decoder (or DEMDEC) that can decode both Mono as well as Stereo, again regardless of any standards.

In this chassis, the analogue decoder is used in two cases:

- It is used for AM Sound demodulation in the Europe SECAM LL' transmission.
- It is used for all FM demodulation in AV-Stereo sets.

### 9.8.1 Diversity

The diversity for the Audio decoding can be broken up into two main concepts:

- The Quasi Split Sound concept used in Europe and some AP sets.
- The Inter Carrier concept, used in NAFTA and LATAM.

The UOC-III family makes no difference anymore between QSS- and Intercarrier IF, nearly all types are software-switchable between the two SAW-filter constructions.

Simple data settings are required for the set to determine whether it is using the Inter Carrier or the QSS concept. These settings are done via the "QSS" and "FMI" bit found in SAM mode. Due to the diversity involved, the data for the 2 bits are placed in the NVM location and it is required to write once during startup.

On top of that, it can be further broken down into various systems depending on the region. The systems or region chosen, will in turn affect the type of sound standard that is/are allowed to be decoded.

- For the case of Europe, the standard consists of BG/DK/I/LL' for a Multi-System set. There are also versions of Eastern Europe and Western Europe set and the standard for decoding will be BG/DK and I/DK respectively. FM Radio (not applicable for the models discussed in this manual) is a feature diversity for some Europe TV sets. The same version can have either FM Radio or not, independent of the system (e.g. sets with BG/DK/I/LL' can have or not have FM radio).
- For the case of NAFTA and LATAM, there is only one transmission standard, which is the M standard. The diversity then will be based on whether it has a dBx noise reduction or a Non-dBx (no dBx noise reduction).

- For the case of AP, the standard consists of BG/DK/I/M for a Multi-System set. The diversity here will then depend on the region. AP China can have a Multi-System and I/DK version. For India, it might only be BG standard.

### 9.8.2 Functionality

The features available in the Hercules are as follows:

- Treble and Bass Control.
- Surround Sound Effect that includes:
  - Incredible Stereo.
  - Incredible Mono.
  - 3D Sound (not for AV Stereo).
  - TruSurround (not for AV Stereo).
  - Virtual Dolby Surround, VDS422 (not for AV Stereo).
  - Virtual Dolby Surround, VDS423 (not for AV Stereo).
  - Dolby Pro-Logic (not for AV Stereo).
- Bass Feature that includes:
  - Dynamic Ultra-Bass.
  - Dynamic Bass Enhancement.
  - BBE (not for AV Stereo).
- Auto-Volume Leveler.
- 5 Band Equalizer.
- Loudness Control.

All the features stated are available for the Full Stereo versions and limited features for the AV Stereo

### 9.8.3 Audio Amplifier

The audio amplifier part is very straightforward. It uses two integrated TDA8931T power amplifiers for the L and R channels; each amplifier IC is able to deliver a maximum output of 20 $W_{RMS}$ continuously in a 4-6 ohm speaker without needing a heatsink.
The operating supply for the amplifier may range from 12 V to 32 V; in the LC04x TV set, depending on the model, supply voltages of 18 V (for the 5 W / 8 ohm version) or 24 V (for the 15 W / 4 ohm version) are used.
Muting is done via the SOUND_ENABLE line connected to pins 7 of both amplifier-ICs, which comes from the Hercules.

### 9.8.4 Audio: Lip Sync

No Lip Sync adjustments are neccessary in this model.

## 9.9 Control

### 9.9.1 Hercules

The System Board has two main micro-controllers on board. These are:

- On-chip x86 micro-controller (OCM) from Genesis LCD or plasma TV/Monitor Controller.
- On-chip 80C51 micro-controller from Philips Semiconductor UOCIII (Hercules) series.

Each micro-controller has it own I²C bus which hosts its own internal devices.
The Hercules is integrated with the Video and Audio Processor. For dynamic data storage, such as SMART PICTURE and SMART SOUND settings, an external NVM IC is being used. Another feature includes an optional Teletext/Closed Caption decoder with the possibility of different page storage depending on the Hercules type number.

### 9.9.2 Block Diagram

The block diagram of the Micro Controller application is shown below.

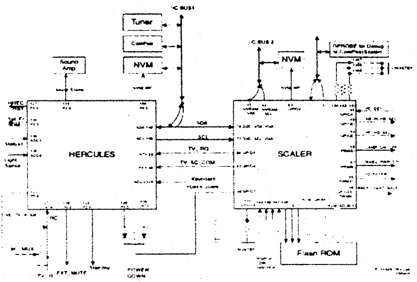


Figure 9-7 Micro Controller block diagram

### 9.9.3 Basic Specification

The Micro Controller operates at the following supply voltages:

- +3.3 $V_{DC}$ at pins 4, 88, 94, and 109.
- +1.8 $V_{DC}$ at pins 93, 96, and 117.
- I²C pull up supply: +3.3$V_{DC}$.

### 9.9.4 Pin Configuration and Functionality

The ports of the Micro Controller can be configured as follows:

- A normal input port.
- An input ADC port.
- An output Open Drain port.
- An output Push-Pull port.
- An output PWM port.
- Input/Output Port

The following table shows the ports used for the LC04 control:

**Table 9-2 Micro Controller ports overview**

| Pin | Name | Description | Configuration |
|---|---|---|---|
| 97 | INT0/ P0.5 | IR | INT0 |
| 98 | P1.0/ INT1 | TV_IRQ | INT2 |
| 99 | P1.1/ T0 | TV_SC_COM | P1.1 |
| 102 | P0.4/ I2SWS | EXT_MUTE | P0.4 |
| 103 | P0.3/ I2SCLK | Lip Sync | I2SCLK |
| 104 | P0.2/ I2SDO2 | NVM_WP | P0.2 |
| 105 | P0.1/ I2SDO1 | Lip Sync | I2SDO1 |
| 106 | P0.0/ I2SDI/O | Lip Sync | I2SDI/O |
| 107 | P1.3/ T1 | PC-TV_LED | P1.3 |
| 108 | P1.6/ SCL | SCL | SCL |
| 109 | P1.7/ SDA | SDA | SDA |
| 111 | P2.0/ TPWM | SOUND_ENABLE | P2.0 |
| 112 | P2.1/ PWM0 | (for future use) | - |
| 113 | P2.2/ PWM1 | (for future use) | - |
| 114 | P2.3/ PWM2 | SEL_IF | P2.3 |
| 115 | P3.0/ ADC0 | Light Sensor - SDM | ADC0 |
| 116 | P3.1/ ADC1 | STATUS_1 | ADC1 |
| 119 | P3.2/ ADC2 | STATUS_2 | ADC2 |
| 120 | P3.3/ ADC3 | KEYBOARD | ADC3 |
| 122 | P2.4/ PWM3 | STANDBY | P2.4 |
| 123 | P2.5/ PWM4 | (for future use) | - |
| 126 | P1.2/ INT2 | (for future use) | - |
| 127 | P1.4/ RX | HERC_RESET | - |
| 128 | P1.5/ TX | POWER_DOWN | P1.5 |

The description of each functional pin is explained below:

- **LED.** This signal is used as an indication for the Standby, Remote and Error Indicator. Region diversity:
  - During protection mode, the LED blinks and the set is in standby mode.
  - During error conditions it blinks at a predefined rate.
  - After receiving a valid RC-5 or local keyboard command it flashes once.
  - For sets with error message indication, the LED blinks when message is active and the set is in standby mode.
- **SCL.** This is the clock wire of the two-wire single master bi-directional $I^2C$ bus.
- **SDA.** This is the data wire of the two-wire single master bi-directional $I^2C$ bus.
- **STANDBY.** The Hercules generates this signal. This can enable the power supply in normal operation and disable it during Standby. It is of logic "high" (3.3 V) under normal operation and "low" (0 V) during Standby.
- **IR.** This input pin is connected to an RC5 remote control receiver.
- **SEL-IF.** This is an output pin to switch the Video SAW filter between M system and other systems.
  - 0: NTSC M (default)
  - 1: PAL B/G, DK, I, L
- **NVM_WP.** The global protection line is used to enable and disable write protection to the NVM. When write to the NVM is required, pin 7 of the NVM must be pulled to logic '0' first (via Write_Protect of the micro-controller pin) before a write is performed. Otherwise pin 7 of NVM must always be at logic "1"
  - 0: Disabled
  - 1: Enabled (default)
- **SOUND_ENABLE.** This pin is used to MUTE the audio amplifier. It is configured as push pull.
- **STATUS_1.** This signal is used to read the status of the SCART 1 input.
- **STATUS_2.** This signal is used to read the status of the SCART 2 input.
- **HERC_RESET.** This pin is used to switch the +1.8V supply.
- **POWER_DOWN.** The power supply generates this signal. Logic "high" (3.3 V) under normal operation of the TV and goes "low" (0 V) when the Mains input voltage supply goes below 70 $V_{AC}$.
- **KEYBOARD.** Following are the Keyboard functions and the step values (8 bit) for it.

**Table 9-3 Local keyboard values**

| Function | Voltage ($V_{DC}$) | Step values (8 bit) |
|---|---|---|
| NAFTA Standby | 0 | 0 - 6 |
| Ch + | 0.43 | 7 - 33 |
| Exit Factory (Ch- and Vol-) | 0.69 | 34 - 53 |
| Ch - | 0.93 | 54 - 73 |
| Menu (Vol - and Vol +) | 1.19 | 74 - 96 |
| Vol - | 1.49 | 97 - 121 |
| DVD Eject (not applicable) | 1.8 | 122 - 147 |
| Vol + | 2.12 | 148 - 169 |

- **TV_IRQ.** This signal is the interrupt from the Scaler IC.
- **TV_SC_COM.** This signal is used for the communication with the Scaler IC.
- **EXT_MUTE.** This signal is used to reduce the Switch-off plop.

## 9.10 Abbreviation List

| | |
|---|---|
| 0/6/12 | SCART switch control signal on A/V board. 0 = loop through (AUX to TV), 6 = play 16:9 format, 12 = play 4:3 format |
| 1080i | 1080 visible lines, interlaced |
| 1080p | 1080 visible lines, progressive scan |
| 2CS | 2 Carrier Sound (or 2 Channel Stereo) |
| 480i | 480 visible lines, interlaced |
| 480p | 480 visible lines, progressive scan |
| ACI | Automatic Channel Installation: algorithm that installs TV channels directly from a cable network by means of a predefined TXT page |
| ADC | Analogue to Digital Converter |
| AFC | Automatic Frequency Control; Control signal used to tune and lock to the correct frequency |
| AGC | Automatic gain control (feedback) signal to the tuner. This circuit ensures a constant output amplitude regardless of the input amplitude |
| AM | Amplitude Modulation; A "data encoding to a carrier" method, such that the carrier amplitude is proportional to the data value |
| AP or A/P | Asia Pacific |
| AR | Aspect Ratio: 4 by 3 or 16 by 9 |
| ASD | Automatic Standard Detection |
| AV | External Audio Video |
| B-SC1-IN | Blue SCART1/EXT1 in |
| B-SC2-IN | Blue SCART2/EXT2 in |
| B-TXT | Blue TeleteXT |
| B/G | Monochrome TV system. Sound carrier distance is 5.5 MHz. B= VHF-band, G= UHF-band |
| BOCMA | Bimos one Chip Mid-end Architecture: video and chroma decoder |
| C-FRONT | Chrominance front input |
| CBA | Circuit Board Assembly (also called PCB or PWB) |
| CL | Constant Level: audio output to connect with an external amplifier |
| CLUT | Colour Look-Up Table |
| COLUMBUS | COLour LUMinance Baseband Universal Subsystem. IC performing noise reduction and 2D/3D comb filtering |
| ComPair | Computer aided rePair. A tool for diagnosing a TV through a PC controlled interface |
| CSM | Customer Service Mode |
| CVBS | Composite Video and Blanking Signal; A single video signal that contains luminance, colour, and timing information |
| CVBS-EXT | CVBS signal from external source (VCR, VCD, etc.) |
| CVBS-INT | CVBS signal from internal Tuner |
| CVBS-MON | CVBS monitor signal |
| CVBS-TER-OUT | CVBS TERrestrial OUTput signal |
| DAC | Digital to Analogue Converter |
| DBE | Dynamic Bass Enhancement: extra low frequency amplification |
| DFU | Directions For Use: Owner's manual |
| DNR | Dynamic Noise Reduction / Digital Noise Reduction; Noise reduction feature of the set |
| DRAM | Dynamic RAM; dynamically refreshed RAM |
| DSP | Digital Signal Processing |
| DST | Dealer Service Tool; Special remote control designed for dealers to enter e.g. service mode (a DST-emulator is available in ComPair) |
| DTS | Digital Theatre System; A multi-channel surround sound format, similar to Dolby Digital |
| DVD | Digital Versatile Disc |
| EEPROM | Electrically Erasable and Programmable Read Only Memory |
| EPLD | Erasable Programmable Logic Device |
| EPG | Electronic Program Guide: system used by broadcasters to transmit TV guide information (= NexTView) |
| EU | Europe |
| EXT | EXTernal (source), entering the set by SCART or by cinches (jacks) |
| FBL | Fast BLanking; DC signal accompanying RGB signals. To blank the video signal when it is returning from the right side of the screen to the left side. The video level is brought down below the black video level |
| FBL-SC1-IN | Fast blanking signal for SCART1 in |
| FBL-SC2-IN | Fast blanking signal for SCART2 in |
| FBL-TXT | Fast Blanking Teletext |
| FM | Field Memory; A memory chip that is capable of storing one or more TV picture fields / Frequency Modulation; A technique that sends data as frequency variations of a carrier signal |
| FMR | Radio receiver that can receive the FM Band 87.5 - 108 MHz |
| FRC | Frame Rate Converter |
| FRONT-C | Front input chrominance (SVHS) |
| FRONT-DETECT | Control line for detection of headphone insertion, Service Mode jumper, power failure detection |
| FRONT-Y_CVBS | Front input luminance or CVBS (SVHS) |
| G-SC1-IN | Green SCART1/EXT1 in |
| G-SC2-IN | Green SCART2/EXT2 in |
| G-TXT | Green teletext |
| H | H_sync to the module |
| HA | Horizontal Acquisition; horizontal sync pulse |
| HD | High Definition |
| HP | HeadPhone |
| I | Monochrome TV system. Sound carrier distance is 6.0 MHz. VHF- and UHF-band |
| $I^2C$ | Integrated IC bus |
| $I^2S$ | Integrated IC Sound bus |
| IC | Integrated Circuit |
| IF | Intermediate Frequency |
| Interlaced | Scan mode where two fields are used to form one frame. Each field contains half the number of the total amount of lines. The fields are written in "pairs", causing line flicker. |
| IR | Infra Red |
| IRQ | Interrupt ReQuest |
| Last Status | The settings last chosen by the customer and read and stored in RAM or in the NVM. They are called at start-up of the set to configure it according to the customer's preferences |
| LATAM | LATin AMerica |
| LC04 | Philips chassis name for LCD TV 2004 project |
| LCD | Liquid Crystal Display |
| LED | Light Emitting Diode; A semiconductor diode that emits light when a current is passed through it |
| LINE-DRIVE | Horizontal (line) deflection drive signal (for the Line transistor) |
| L/L' | Monochrome TV system. Sound carrier distance is 6.5 MHz. L' is Band I, L is all bands except for Band I |
| LS | LoudSpeaker |
| LVDS | Low Voltage Differential Signalling, data transmission system for high speed and low EMI communication. |
| M/N | Monochrome TV system. Sound carrier distance is 4.5 MHz. M= 525 lines @ 60 Hz, N= 625 lines @ 50 Hz |
| MOSFET | Metal Oxide Semiconductor Field Effect Transistor |
| MPEG | Motion Pictures Experts Group. An ISO/IEC body that has given its name to an image compressing scheme for moving video |
| MSP | Multi-standard Sound Processor: ITT sound decoder |
| MUTE | MUTE Line |
| NC | Not Connected |
| NICAM | Near Instantaneously Companded Audio Multiplexing; This is a digital sound system, mainly used in Europe |
| NTSC | National Television Standard Committee. Colour system used mainly in North America and Japan. Colour carrier NTSC M/N = 3.579545 MHz, NTSC 4.43 = 4.433619 MHz (this is a VCR norm, it is not transmitted off-air) |
| NVM | Non Volatile Memory; IC containing data such as alignment values, preset stations |
| O/C | Open Circuit |
| ON/OFF LED | On/Off control signal for the LED |
| OSD | On Screen Display |
| PAL | Phase Alternating Line. Colour system used mainly in Western Europe (colour carrier = 4.433619 MHz) and South America (colour carrier PAL M = 3.575612 MHz and PAL N = 3.582056 MHz) |
| PC | Personal Computer |
| PCB | Printed Circuit Board (or PWB) |
| PIG | Picture In Graphic |
| PIP | Picture In Picture |
| PLL | Phase Locked Loop. Used, for example, in FST tuning systems. The customer can directly provide the desired frequency |
| Progressive Scan | Scan mode where all scan lines are displayed in one frame at the same time, creating a double vertical resolution. |
| PWB | Printed Wiring Board (also called PCB or CBA) |
| RAM | Random Access Memory |
| RC | Remote Control transmitter |
| RC5 or 6 | Remote Control system 5 or 6, the signal from the remote control receiver |
| RGB | Red, Green, and Blue colour space; The primary colour signals for TV. By mixing levels of R, G, and B, all colours (Y/C) are reproduced |
| RGBHV | Red, Green, Blue, Horizontal sync, and Vertical sync |
| ROM | Read Only Memory |
| SAM | Service Alignment Mode |
| SC | SandCastle: two-level pulse derived from sync signals |
| SC-IN | SCART in |
| SC-OUT | SCART out |
| S/C | Short Circuit |
| SCART | Syndicat des Constructeurs d'Appareils Radiorécepteurs et |

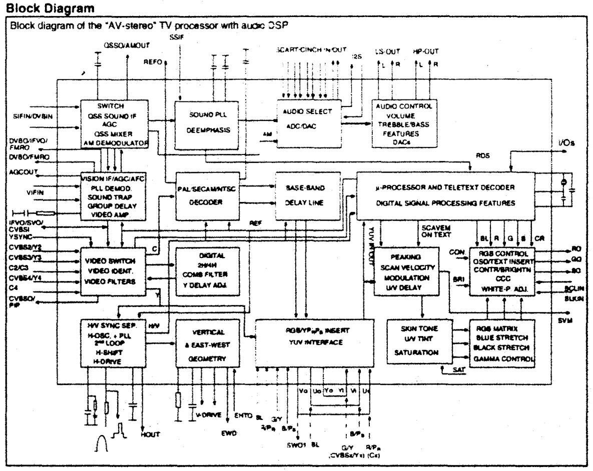
| | |
|---|---|
| | Téléviseurs; This is a 21-pin connector used in EU, that carries various audio, video, and control signals (it is also called Péritel connector) |
| SCL | Serial CLock Signal on I²C bus |
| SD | Standard Definition |
| SDA | Serial DAta Signal on I²C bus |
| SDRAM | Synchronous DRAM |
| SECAM | SÉquence Couleur Avec Mémoire; Colour system mainly used in France and East Europe. The chroma is FM modulated and the R-Y and B-Y signals are transmitted line sequentially. Colour carriers= 4.406250 MHz and 4.250000 MHz |
| SIF | Sound Intermediate Frequency |
| SMPS | Switched Mode Power Supply |
| SND | SouND |
| SNDL-SC1-IN | Sound left SCART1 in |
| SNDL-SC1-OUT | Sound left SCART1 out |
| SNDL-SC2-IN | Sound left SCART2 in |
| SNDL-SC2-OUT | Sound left SCART2 out |
| SNDR-SC1-IN | Sound right SCART1 in |
| SNDR-SC1-OUT | Sound right SCART1 out |
| SNDR-SC2-IN | Sound right SCART2 out |
| SNDR-SC2-OUT | Sound right SCART2 out |
| SOPS | Self Oscillating Power Supply |
| S/PDIF | Sony Philips Digital InterFace; This is a consumer interface used to transfer digital audio |
| SRAM | Static RAM |
| STBY | STandBY |
| SVHS | Super Video Home System |
| SW | Software or Subwoofer or Switch |
| THD | Total Harmonic Distortion |
| TXT | Teletext; TXT is a digital addition to analogue TV signals that contain textual and graphical information (25 rows x 40 columns). The information is transmitted within the first 25 lines during the Vertical Blank Interval (VBI) |
| µP | Microprocessor |
| VA | Vertical Acquisition |
| VL | Variable Level out: processed audio output towards external amplifier |
| VCR | Video Cassette Recorder |
| VGA | Video Graphics Array; 640x480 (4:3) |
| WD | Watch Dog |
| WYSIWYR | What You See Is What You Record: record selection that follows main picture and sound |
| XTAL | Quartz crystal |
| Y | Luminance signal |
| Y/C | Y consists of luminance signal, blanking level and sync; C consists of chroma (colour) signal |
| YPbPr | This is a scaled version of the YUV colour space. Y= Luminance, Pb/Pr= Colour difference signals B-Y and R-Y, other amplitudes w.r.t. to YUV |
| YUV | Colour space used by the NTSC and PAL video systems. Y is the luminance and U/V are the colour difference signals |

## 9.11 IC Data Sheets

This section shows the internal block diagrams and pin layouts of ICs that are drawn as "black boxes" in the electrical diagrams (with the exception of "memory" and "logic" ICs).

### 9.11.1 Diagram B2, Type TDA15021H (IC7217, Hercules)

**Block Diagram**


Block diagram of the "AV-stereo" TV processor with audio DSP
QSSO/AMOUT
SSIF
REFO
SCART/CINCH IN/OUT
LS-OUT
HP-OUT
SWITCH
QSS SOUND IF
AGC
QSS MIXER
AM DEMODULATOR
SOUND PLL
DEEMPHASIS
AUDIO SELECT
ADC/DAC
AUDIO CONTROL
VOLUME
TREBBLE/BASS
FEATURES
DACs
SIFIN/DVBIN
DVBO/IFVO/FMRO
DVBO/FMRO
AGCOUT
VIFIN
VISION IF/AGC/AFC
PLL DEMOD
SOUND TRAP
GROUP DELAY
VIDEO AMP
PAL/SECAM/NTSC
DECODER
BASE-BAND
DELAY LINE
µ-PROCESSOR AND TELETEXT DECODER
DIGITAL SIGNAL PROCESSING FEATURES
I/Os
RDS
IFVO/SVO/CVBSI
YSYNC
CVBS2/Y2
CVBS3/Y3
C2/C3
CVBS4/Y4
C4
CVBSO/PIP
VIDEO SWITCH
VIDEO IDENT.
VIDEO FILTERS
DIGITAL
2H/4H
COMB FILTER
Y DELAY ADJ.
PEAKING
SCAN VELOCITY
MODULATION
U/V DELAY
SCAVEM
ON TEXT
RGB CONTROL
OSD/TEXT INSERT
CONTR/BRIGHTN
CCC
WHITE-P. ADJ.
RO
GO
BO
BCLIN
BLKIN
SVM
H/V SYNC SEP.
H-OSC. + PLL
2nd LOOP
H-SHIFT
H-DRIVE
VERTICAL
& EAST-WEST
GEOMETRY
RGB/YPbPr INSERT
YUV INTERFACE
SKIN TONE
U/V TINT
SATURATION
RGB MATRIX
BLUE STRETCH
BLACK STRETCH
GAMMA CONTROL
SAT
HOUT
EWD
V-DRIVE
EHTO
SWO1
BL
G/Y
R/Pr
CVBS/Y-X
C-X

**Pin Configuration**

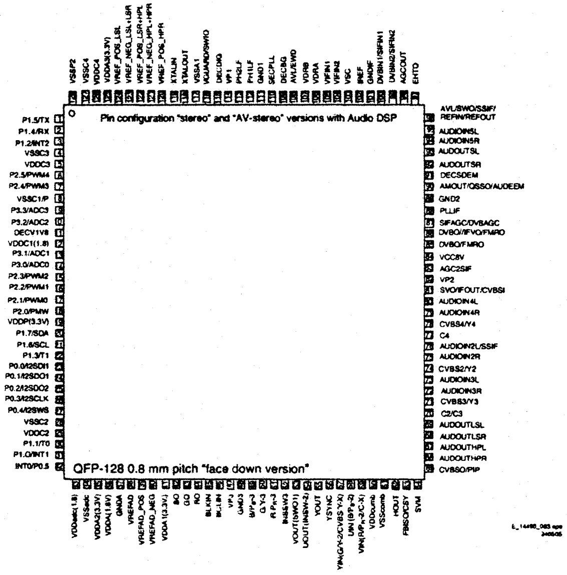

Pin configuration "stereo" and "AV-stereo" versions with Audio DSP
QFP-128 0.8 mm pitch "face down version"
P1.5/TX
P1.4/RX
P1.2/INT2
VSSC3
VDDC3
P2.5/PWM4
P2.4/PWM3
VSSC1/P
P3.3/ADC3
P3.2/ADC2
DECV1V8
VDDC1(1.8)
P3.1/ADC1
P3.0/ADC0
P2.3/PWM2
P2.2/PWM1
P2.1/PWM0
P2.0/PMW
VDDP(3.3V)
P1.7/SDA
P1.6/SCL
P1.3/T1
P0.0/I2SDI1
P0.1/I2SDO1
P0.2/I2SDO2
P0.3/I2SCLK
P0.4/I2SWS
VSSC2
VDDC2
P1.1/T0
P1.0/INT1
INT0/P0.5
VDDadc(1.8)
VSSadc
VDDA2(3.3V)
VDDA(1.8V)
GNDA
VREFAD
VREFAD_POS
VREFAD_NEG
VDDA1(3.3V)
BO
GO
RO
BLKIN
BL1IN
VP3
GND3
B/Y-3
G/Y-3
R/Y-3
INSSW3
VOUT(SWO1)
UOUT(INSSW-2)
YOUT
YSYNC
YIN(G/Y-2/CVBS-Y-X)
UIN(B/Pb-2)
VIN(R/Pr-2/C-X)
VDDcomb
VSScomb
HOUT
FBISO/CSY
SVM
CVBSO/PIP
AUDOUTHPR
AUDOUTHPL
AUDOUTLSR
AUDOUTLSL
C2/C3
CVBS3/Y3
AUDIOIN3R
AUDIOIN3L
CVBS2/Y2
AUDIOIN2R
AUDIOIN2L/SSIF
C4
CVBS4/Y4
AUDIOIN4R
AUDIOIN4L
SVO/IFOUT/CVBSI
VP2
AGC2SIF
VCC8V
DVBO/FMRO
DVBO/IFVO/FMRO
SIFAGC/DVBAGC
PLLIF
GND2
AMOUT/QSSO/AUDEEM
DECSDEM
AUDOUTSR
AUDOUTSL
AUDIOIN5R
AUDIOIN5L
AVL/SWO/SSIF/REFIN/REFOUT
EHTO
AGCOUT
DVBIN2/SIFIN2
DVBIN1/SIFIN1
GNDIF
IREF
VSC
VIFIN2
VIFIN1
VDRA
VDRB
AVL/EWD
DECBG
SECPLL
GND1
PH1LF
PH2LF
VP1
DECLDIG
VGUARD/SWIO
VSSA1
XTALOUT
XTALIN
VREF_POS_HPR
VREF_NEG_HPL+HPR
VREF_POS_LSR+HPL
VREF_NEG_LSL+LSR
VREF_POS_LSL
VDDA3(3.3V)
VDDC4
VSSC4
VSSP2
E_14490_083.eps
240505

Figure 9-8 Internal block diagram and pin configuration

### 9.11.2 Diagram B19, Type T6TU5XB (IC7M00, Columbus)

## Figure 1 Package outline (top view)

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | WEB/ DAVB | UVA0 /Di0 | UVA2 /Di2 | UVA4 /Di4 | UVA6 /Di6 | UVA8 /Di8 | SEL656 | TST1 | YA2 | YA4 | YA6 | YA8 | VA | HREF | SDA | A |
| B | YB8 | VSS | UVA1 /Di1 | UVA3 /Di3 | UVA5 /Di5 | UVA7 /Di7 | YA0 /Di9 | BISTEN | YA1 | YA3 | YA5 | YA7 | WEA/ DAVA | VSS | SCL | B |
| C | YB7 | YB6 | VSS | VDDS | VSS | VSS | VDDC | VDDC | VSS | VSS | VDDC | VDDS | VSS | SNDA | SNRST | C |
| D | YB5 | YB4 | VDDC | N.C. | | | | | | | | | VSS | SNCL | TCK | D |
| E | YB3 | YB2 | VSS | | | | | | | | | | VDDC | TMS | TDO | E |
| F | TST2 | YB1 | VSS | | | | | | | | | | VSS | TRST | TDI | F |
| G | CLKASB | YB0 /Do9 | VDDS | | | | | | | | | | VDDS | A0ICC | RESET | G |
| H | CLKASA | UVB8/ Do8 | TST3 | | | | | | | | | | VDDC | CLK EXT | CLKSEL | H |
| J | UVB7 /Do7 | UVB6/ Do6 | VSS | | | | | | | | | | VSS | CLK | WEN | J |
| K | UVB5 /Do5 | UVB4/ Do4 | VDDC | | | | | | | | | | VSS | CASN | RASN | K |
| L | UVB3 /Do3 | UVB2 /Do2 | VSS | | | | | | | | | | VDDS | DQM | DQ16 | L |
| M | UVB1 /Do1 | UVB0 /Do0 | VDDS | | | | | | | | | | VSS | DQ14 | DQ15 | M |
| N | AVD | N.C. | VDDS | VSS | VSS | VDDC | VSS | VDDS | VDDC | VSS | VDDS | VSS | VSS | VDDS | DQ13 | N |
| P | AVS | VSS | A7 | A9 | A2 | A0 | A11 | DQ7 | DQ6 | DQ4 | DQ3 | DQ1 | VDDS | VSS | DQ12 | P |
| R | A4 | A5 | A6 | A8 | A3 | A1 | A10 | DQ8 | VSS | DQ5 | VSS | DQ2 | DQ9 | DQ10 | DQ11 | R |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | |

**COLUMBUS**
**TOP-VIEW**

**PPA Version 2.7**

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Figure 9-9 Pin configuration

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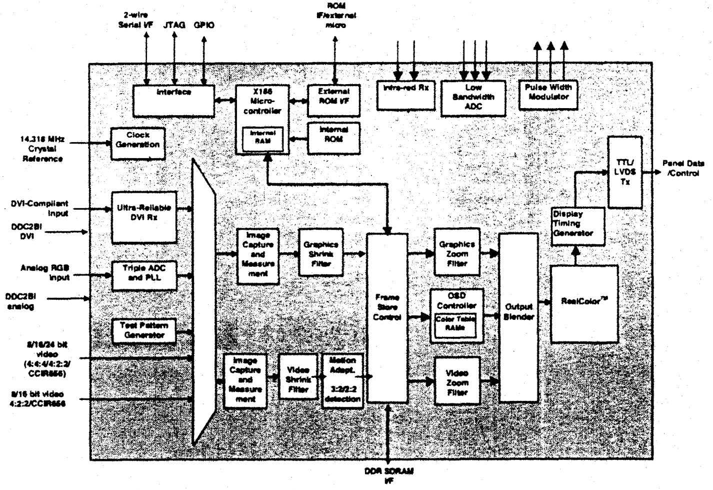
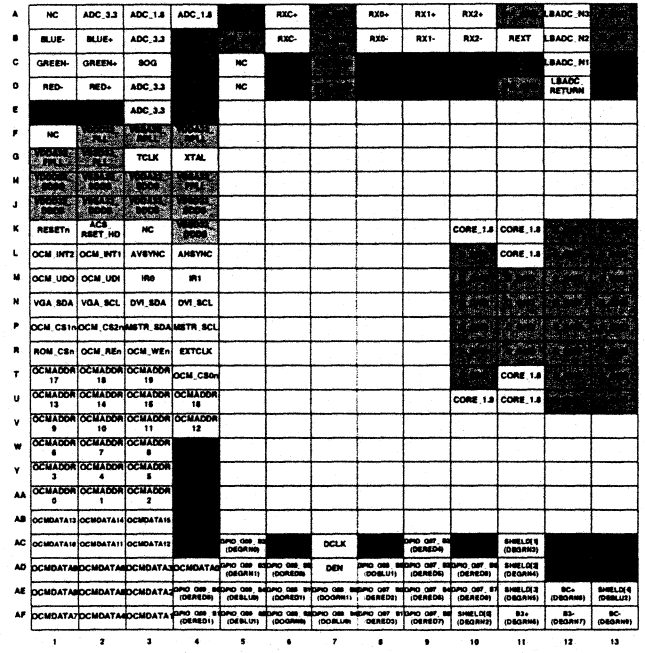
### 9.11.3 Diagram B7+B8+B9, Type GM1501 (IC7401, Genesis)

## Block Diagram


2-wire Serial I/F
JTAG
GPIO
Parallel ROM I/F/external micro
Interface
X186 Micro-controller
Internal RAM
External ROM I/F
Internal ROM
Infra-red Rx
Low Bandwidth ADC
Pulse Width Modulator
14.318 MHz Crystal Reference
Clock Generation
DVI-Compliant Input
DDC2BI DVI
Ultra-Reliable DVI Rx
Analog RGB Input
Triple ADC and PLL
DDC2BI analog
Test Pattern Generator
8/16/24 bit video (4:4:4/4:2:2/ CCIR656)
8/16 bit video 4:2:2/CCIR656
Image Capture and Measurement
Graphics Shrink Filter
Image Capture and Measurement
Video Shrink Filter
Motion Adapt. 3:2/2:2 detection
Frame Store Control
Graphics Zoom Filter
OSD Controller
Color Table RAMs
Video Zoom Filter
Output Blender
RealColor™
Display Timing Generator
TTL/ LVDS Tx
Panel Data /Control
DDR SDRAM I/F

## Pin Configuration



| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A | NC | ADC_3.3 | ADC_1.8 | ADC_1.8 | | RXC+ | | RX0+ | RX1+ | RX2+ | | LBADC_N3 | |
| B | BLUE- | BLUE+ | ADC_3.3 | | | RXC- | | RX0- | RX1- | RX2- | REXT | LBADC_N2 | |
| C | GREEN- | GREEN+ | SOG | | NC | | | | | | | LBADC_N1 | |
| D | RED- | RED+ | ADC_3.3 | | NC | | | | | | | LBADC_ RETURN | |
| E | | | ADC_3.3 | | | | | | | | | | |
| F | NC | [illegible] | [illegible] | [illegible] | | | | | | | | | |
| G | [illegible] | [illegible] | TCLK | XTAL | | | | | | | | | |
| H | [illegible] | [illegible] | [illegible] | [illegible] | | | | | | | | | |
| J | [illegible] | [illegible] | [illegible] | [illegible] | | | | | | | | | |
| K | RESETn | ACS_ RSET_HD | NC | [illegible] | | | | | | CORE_1.8 | CORE_1.8 | | |
| L | OCM_INT2 | OCM_INT1 | AVSYNC | AHSYNC | | | | | | | CORE_1.8 | | |
| M | OCM_UDO | OCM_UDI | IR0 | IR1 | | | | | | | | | |
| N | VGA_SDA | VGA_SCL | DVI_SDA | DVI_SCL | | | | | | | | | |
| P | OCM_CS1n | OCM_CS2n | MSTR_SDA | MSTR_SCL | | | | | | | | | |
| R | ROM_CSn | OCM_REn | OCM_WEn | EXTCLK | | | | | | | | | |
| T | OCMADDR 17 | OCMADDR 18 | OCMADDR 19 | OCM_CS0n | | | | | | | CORE_1.8 | | |
| U | OCMADDR 13 | OCMADDR 14 | OCMADDR 15 | OCMADDR 16 | | | | | | CORE_1.8 | CORE_1.8 | | |
| V | OCMADDR 9 | OCMADDR 10 | OCMADDR 11 | OCMADDR 12 | | | | | | | | | |
| W | OCMADDR 6 | OCMADDR 7 | OCMADDR 8 | | | | | | | | | | |
| Y | OCMADDR 3 | OCMADDR 4 | OCMADDR 5 | | | | | | | | | | |
| AA | OCMADDR 0 | OCMADDR 1 | OCMADDR 2 | | | | | | | | | | |
| AB | OCMDATA13 | OCMDATA14 | OCMDATA15 | | | | | | | | | | |
| AC | OCMDATA10 | OCMDATA11 | OCMDATA12 | | GPIO_G08_ (DEGRN0) | | DCLK | | GPIO_G07_ (DERED4) | | SHIELD[1] (DEGRN3) | | |
| AD | OCMDATA9 | OCMDATA6 | OCMDATA3 | OCMDATA0 | GPIO_G08_ (DEGRN1) | GPIO_G08_ (DORED0) | DEN | GPIO_G08_ (DOBLU1) | GPIO_G07_ (DERED5) | GPIO_G07_ (DERED8) | SHIELD[2] (DEGRN4) | | |
| AE | OCMDATA8 | OCMDATA5 | OCMDATA2 | GPIO_G08_ (DERED0) | GPIO_G08_ (DEBLU0) | GPIO_G08_ (DORED1) | GPIO_G08_ (DOGRN1) | GPIO_G07_ (DERED2) | GPIO_G07_ (DERED6) | GPIO_G07_ (DERED9) | SHIELD[3] (DEGRN5) | BC+ (DEGRN9) | SHIELD[4] (DEBLU2) |
| AF | OCMDATA7 | OCMDATA4 | OCMDATA1 | GPIO_G08_ (DERED1) | GPIO_G08_ (DEBLU1) | GPIO_G08_ (DOGRN0) | GPIO_G08_ (DOBLU0) | GPIO_G07_ (DERED3) | GPIO_G07_ (DERED7) | SHIELD[0] (DEGRN2) | B3+ (DEGRN6) | B3- (DEGRN7) | BC- (DEGRN8) |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |

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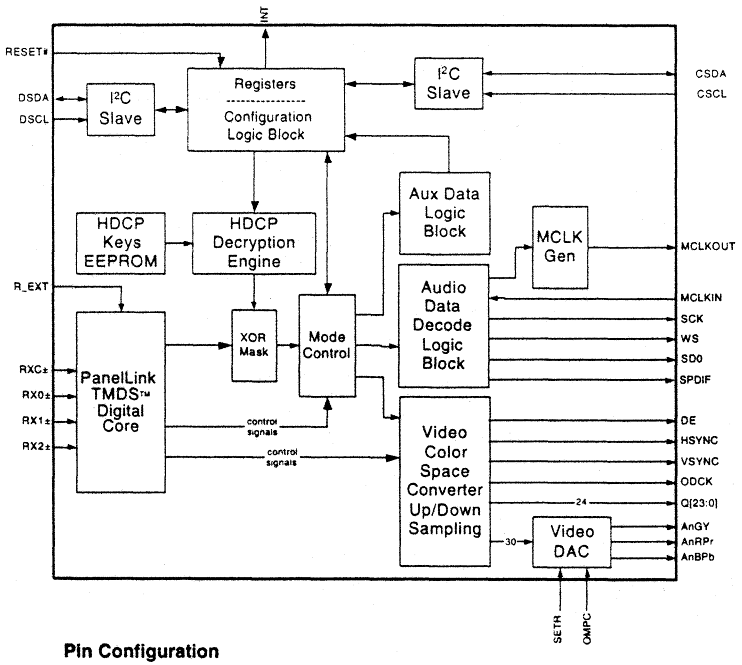
241204

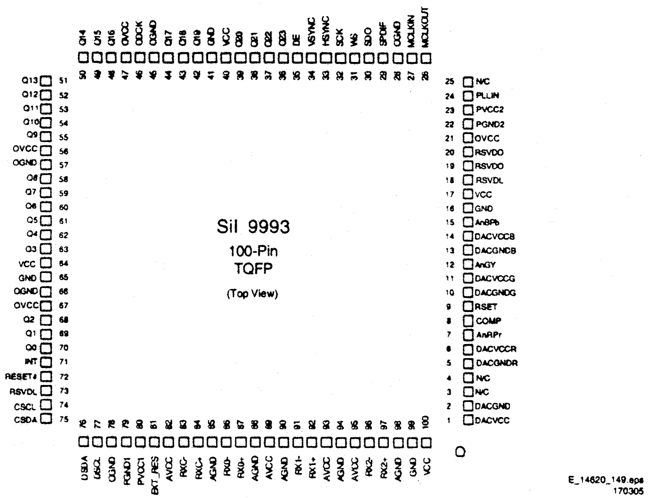
Figure 9-10 Internal block diagram and pin configuration

### 9.11.4 Diagram B12, Type S9993CT (IC7D03, HDMI Panellink), Reserved

**Block Diagram**



**Pin Configuration**



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170305

Figure 9-11 Internal block diagram and pin configuration

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# 10. Spare Parts List

## Set Level

### Various

| | | |
|---|---|---|
| 1004 | 8204 000 78181 | PDP S42SD-YD07 |
| 1004▲ | 9322 224 88682 | PDP PDP42V7A062 |
| 1012 | 3104 328 39571 | LED panel LC04SD2 |
| 8102 | 3104 311 03601 | Cable 7p/400/7p |
| 8102 | 3104 311 07241 | Cable 7P/1000/7P |
| 8103 | 3104 311 06511 | Cable 10p/280/10p |
| 8103 | 3104 311 07391 | Cable 10P/220/10P |
| 8120▲ | 3104 311 07421 | Cable 6P/680/6P |
| 8146 | 3104 311 08621 | Cable 11P/220/11P |
| 8150 | 3104 311 08831 | Cable 31P/300/31P |
| 8150 | 3104 311 10493 | Cable 31P/220/31P |
| 8152▲ | 3104 311 09921 | Cable 9P/680/9P |
| 8900▲ | 3104 311 07911 | Cable ring/180/ring |

## Set Level

### Various

| | | |
|---|---|---|
| 1014 | 3104 328 39561 | Side control LC04SD2 |
| 1116 | 3104 328 40501 | Side I/O Assy LC04SD2 |
| 8101 | 3104 311 10751 | Cable 3P/1K7/3P |
| 8136 | 3104 311 10733 | Cable 11P/1K/11P |
| 8735 | 3104 311 10601 | Cable 2P3/1400/POSI |
| 8736 | 3104 311 10591 | Cable 2P3/1000/POSI |

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| | | |
|---|---|---|
| 5213 | 2441 257 30020 | Loudspeaker 8Ω 10W |
| 5214 | 2441 257 30020 | Loudspeaker 8Ω 10W |

## Power Supply Unit [A]

### Various

| | | |
|---|---|---|
| 1002 | 4822 267 10618 | Connector 7p |
| 1004 | 2422 086 00676 | Fuse 2A T 250V |
| 1082 | 2422 086 00677 | Fuse 2.5A T 250V |
| 1083 | 2422 086 00677 | Fuse 2.5A T 250V |
| 1084 | 2422 086 10849 | Fuse 1A F 250V |
| 1110 | 2422 086 00678 | Fuse 5A T 250V |
| 1200 | 2422 086 00676 | Fuse 2A T 250V |
| 1260 | 4822 252 51186 | Fuse 2A |
| 1400 | 4822 070 36302 | Fuse 6.3A |
| 1402 | 4822 252 60151 | Surge protect |
| 1450 | 4822 280 10382 | SDT-SS-109DM |
| 1460 | 4822 280 10382 | SDT-SS-109DM |
| 1M03 | 2422 025 10771 | Connector 10p m |
| 1M05 | 2422 025 16374 | Connector 2p m |
| 1M10 | 2422 025 09406 | Connector 4p m |
| 1M46 | 2422 025 10655 | Connector 11p m |

⊣⊢

| | | |
|---|---|---|
| 2000 | 2252 811 95017 | 470pF 10% 250V |
| 2001 | 2222 338 22474 | 470nF 20% 275V |
| 2005 | 2238 867 18101 | 100pF 1% 50V 0603 |
| 2006 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2007 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2008 | 5322 126 11583 | 10nF 10% 50V 0603 |
| 2010 | 5322 126 11583 | 10nF 10% 50V 0603 |
| 2011 | 2222 375 24153 | 15nF 5% 1kV |
| 2012 | 4822 126 11254 | 330pF 10% 2kV |
| 2013 | 4822 126 11254 | 330pF 10% 2kV |
| 2014 | 4822 126 13862 | 1.5nF 10% 2kV |
| 2015 | 5322 126 11583 | 10nF 10% 50V 0603 |
| 2017 | 2222 375 24153 | 15nF 5% 1kV |
| 2018 | 2238 867 18101 | 100pF 1% 50V 0603 |
| 2019 | 2252 811 95017 | 470pF 10% 250V |
| 2020 | 2020 024 90737 | 3300µF 20% 100V |
| 2021 | 2020 024 90737 | 3300µF 20% 100V |
| 2022 | 2020 021 91354 | 1000µF 20% 50V |
| 2023 | 2222 580 15649 | 100nF 10% 50V 0805 |
| 2024 | 3198 035 03320 | 3.3nF 5% 50V 0402 |
| 2025 | 4822 124 12084 | 1µF 20% 50V |
| 2026 | 2020 552 96623 | 2.2nF 10% 50V 0402 |
| 2027 | 2020 552 96631 | 15nF 10% 16V 0402 |
| 2028 | 2238 930 11541 | 220pF 5% 200V |
| 2029 | 2238 930 11541 | 220pF 5% 200V |
| 2030 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2031 | 2020 552 96628 | 10nF 10% 16V 0402 |
| 2032 | 2238 586 15641 | 22nF 10% 50V 0603 |
| 2033 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2034 | 4822 126 14525 | 47pF 5% 1kV |
| 2035 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2036 | 2238 586 15641 | 22nF 10% 50V 0603 |
| 2037 | 4822 126 14525 | 47pF 5% 1kV |
| 2038 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2039 | 2020 552 96623 | 2.2nF 10% 50V 0402 |
| 2040 | 3198 034 02790 | 47pF 1% 50V 0402 |
| 2041 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2042 | 3198 035 03310 | 330pF 5% 50V 0402 |
| 2043 | 4822 124 12084 | 1µF 20% 50V |
| 2044 | 2238 930 11541 | 220pF 5% 200V |
| 2045 | 2238 930 11541 | 220pF 5% 200V |
| 2046 | 2252 568 08305 | 33pF 5% 500V |
| 2047 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2048 | 2020 552 96683 | 220nF 10% 50V |
| 2049 | 2238 867 18101 | 100pF 1% 50V 0603 |
| 2050 | 2238 586 15641 | 22nF 10% 50V 0603 |
| 2051 | 4822 122 33177 | 10nF 20% 50V |
| 2052 | 4822 124 12056 | 1000µF 20% 35V |
| 2053 | 2022 031 00308 | 22µF 20% 35V |
| 2054 | 2020 552 00216 | 220pF 5% 50V 0402 |
| 2055 | 2020 552 96621 | 1.5nF 10% 50V 0402 |
| 2056 | 2020 552 00216 | 220pF 5% 50V 0402 |
| 2057 | 2020 552 96621 | 1.5nF 10% 50V 0402 |
| 2058 | 4822 124 41828 | 1µF 20% 250V |
| 2059 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2060 | 2020 552 96683 | 220nF 10% 50V |
| 2061 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2070 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2071 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2090 | 2020 021 91729 | 4.7µF 20% 35V |
| 2112 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2113 | 4822 124 12379 | 220µF 25V |
| 2114 | 2020 552 96683 | 220nF 10% 50V |
| 2118 | 4822 126 13449 | 1nF 10% 2kV |
| 2121 | 2020 024 90736 | 2200µF 20% 100V |
| 2122 | 4822 121 51319 | 1µF 10% 63V |
| 2123 | 3198 035 03320 | 3.3nF 5% 50V 0402 |
| 2126 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2133 | 4822 124 81151 | 22µF 50V |
| 2203 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2205 | 2020 021 91729 | 4.7µF 20% 35V |
| 2210 | 4822 124 80151 | 47µF 16V |
| 2211 | 3198 035 04710 | 470pF 50V 0402 |
| 2212 | 2020 552 96326 | 220nF 10% 16V |
| 2213 | 3198 035 03320 | 3.3nF 5% 50V 0402 |
| 2214 | 3198 035 03320 | 3.3nF 5% 50V 0402 |
| 2215 | 3198 035 04710 | 470pF 50V 0402 |
| 2218 | 2222 375 90141 | 3.3nF 1.6kV 5% |
| 2222 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2223 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2225 | 2020 021 91551 | 2200µF 20% 25V |
| 2226 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2227 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2229 | 2020 021 00036 | 470µF 20% 16V |
| 2230 | 2020 021 00036 | 470µF 20% 16V |
| 2231 | 4822 124 80151 | 47µF 16V |
| 2232 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2234 | 2022 552 05679 | 1µF 10% 16V 0805 |
| 2236 | 4822 124 23002 | 10µF 16V |
| 2237 | 4822 124 23002 | 10µF 16V |
| 2263 | 2222 861 15272 | 2.7nF 5% 50V 0805 |
| 2264 | 4822 126 14583 | 470nF 10% 16V 0805 |
| 2265 | 3198 035 03310 | 330pF 5% 50V 0402 |
| 2266 | 2020 021 91729 | 4.7µF 20% 35V |
| 2267 | 5322 122 32531 | 100pF 5% 50V |
| 2268 | 2020 552 96683 | 220nF 10% 50V |
| 2269 | 4822 123 14025 | 2200µF 20% 16V |
| 2270 | 4822 124 40433 | 47µF 20% 25V |
| 2273 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2274 | 2020 552 96628 | 10nF 10% 16V 0402 |
| 2290 | 5322 126 11583 | 10nF 10% 50V 0603 |
| 2291 | 3198 035 04710 | 470pF 50V 0402 |
| 2293 | 3198 035 04710 | 470pF 50V 0402 |
| 2295 | 3198 035 04710 | 470pF 50V 0402 |
| 2296 | 3198 035 04710 | 470pF 50V 0402 |
| 2304 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2305 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2306 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2322 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2324 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2350 | 4822 124 12095 | 100µF 20% 16V |
| 2352 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2364 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2376 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2377 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2381 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2385 | 2020 552 96628 | 10nF 10% 16V 0402 |
| 2386 | 2020 552 96628 | 10nF 10% 16V 0402 |
| 2387 | 4822 124 12095 | 100µF 20% 16V |
| 2388 | 2020 552 96628 | 10nF 10% 16V 0402 |
| 2397 | 4822 124 12095 | 100µF 20% 16V |
| 2398 | 4822 124 23002 | 10µF 16V |
| 2400 | 2222 338 22474 | 470nF 20% 275V |
| 2401 | 2222 338 22474 | 470nF 20% 275V |
| 2404 | 4822 126 14525 | 47pF 5% 1kV |
| 2405 | 2252 811 95017 | 470pF 10% 250V |
| 2406 | 4822 126 14525 | 47pF 5% 1kV |
| 2407 | 2252 811 95017 | 470pF 10% 250V |
| 2465 | 4822 124 12095 | 100µF 20% 16V |
| 2502 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2503 | 2020 024 90708 | 47µF 400V 20% |
| 2504 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2507 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2508 | 4822 124 12095 | 100µF 20% 16V |
| 2509 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2510 | 2020 021 91506 | 1000µF 20% 16V |
| 2511 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2512 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2513 | 2222 580 15649 | 100nF 10% 50V 0805 |
| 2532 | 4822 124 12095 | 100µF 20% 16V |
| 2533 | 4822 124 12095 | 100µF 20% 16V |
| 2534 | 2022 552 05679 | 1µF 10% 16V 0805 |
| 2540 | 4822 124 12095 | 100µF 20% 16V |
| 2541 | 4822 124 12095 | 100µF 20% 16V |
| 2542 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2600 | 4822 122 33799 | 1nF 10% 1kV |
| 2601 | 4822 122 33799 | 1nF 10% 1kV |
| 2602 | 2020 552 96623 | 2.2nF 10% 50V 0402 |
| 2603 | 2222 383 90136 | 1µF 5% 400V |
| 2605 | 2222 383 90136 | 1µF 5% 400V |
| 2608 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2610 | 4822 121 70584 | 1.8nF 5% 2kV |
| 2611 | 4822 126 12263 | 220pF 10% 2kV |
| 2612 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2614 | 2020 552 96623 | 2.2nF 10% 50V 0402 |
| 2616 | 4822 124 12415 | 220µF 20% 400V |
| 2617 | 4822 124 12415 | 220µF 20% 400V |
| 2640 | 3198 035 04710 | 470pF 50V 0402 |
| 2642 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2651 | 2020 552 96628 | 10nF 10% 16V 0402 |
| 2653 | 3198 035 06810 | 680pF 5% 50V 0402 |
| 2654 | 4822 124 80151 | 47µF 16V |
| 2655 | 2022 552 05679 | 1µF 10% 16V 0805 |
| 2656 | 2222 580 15649 | 100nF 10% 50V 0805 |
| 2660 | 4822 126 13881 | 470pF 5% 50V |
| 2661 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2662 | 4822 124 80061 | 1000µF 20% 25V |
| 2663 | 4822 121 51319 | 1µF 10% 63V |
| 2664 | 4822 124 40255 | 100µF 20% 63V |
| 2665 | 4822 126 13881 | 470pF 5% 50V |
| 2666 | 2020 552 96793 | 4.7nF 10% 50V 0402 |
| 2670 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2671 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2672 | 2222 580 15649 | 100nF 10% 50V 0805 |
| 2673 | 2020 558 90621 | 10nF 630V |
| 2674 | 2020 558 90621 | 10nF 630V |
| 2675 | 2020 558 90621 | 10nF 630V |
| 2676 | 2020 558 90621 | 10nF 630V |
| 2677 | 2020 552 96623 | 2.2nF 10% 50V 0402 |
| 2690 | 2020 552 96618 | 1nF 10% 50V 0402 |

-WW-

| | | |
|---|---|---|
| 3001 | 4822 051 30471 | 47Ω 5% 0.062W |
| 3002 | 4822 051 30471 | 47Ω 5% 0.062W |
| 3003 | 4822 117 11297 | 100kΩ 5% 0.1W |
| 3004 | 3198 031 01530 | 15kΩ 5% 0.01W 0402 |
| 3005 | 3198 031 02730 | 27kΩ 5% 0402 |
| 3006 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3007 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3008 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3009 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3010 | 3198 031 01530 | 15kΩ 5% 0.01W 0402 |
| 3011 | 4822 051 30561 | 560Ω 5% 0.062W |
| 3012 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3013 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3014 | 4822 050 23309 | 33Ω 1% 0,6W |
| 3015 | 4822 050 21009 | 10Ω 1% 0.6W |
| 3016 | 4822 051 10102 | 1kΩ 2% 0.25W |
| 3017 | 4822 050 23309 | 33Ω 1% 0,6W |
| 3018 | 4822 050 21009 | 10Ω 1% 0.6W |
| 3019 | 4822 051 10102 | 1kΩ 2% 0.25W |
| 3020 | 3198 031 05630 | 56kΩ 5% 0402 |
| 3022 | 4822 051 30681 | 680Ω 5% 0.062W |
| 3023 | 3198 031 04730 | 47Ω 5% 0402 |

| | | |
|---|---|---|
| 3024 | 4822 117 12306 | 150kΩ 1% 0.1W |
| 3025 | 2322 706 71802 | 1.8kΩ 5% 0402 |
| 3026 | 4822 051 20684 | 680kΩ 5% 0.1W |
| 3027 | 3198 031 04730 | 47Ω 5% 0402 |
| 3028 | 2322 704 67502 | 7.5kΩ 1% 0.5W |
| 3029 | 4822 051 30123 | 12kΩ 5% 0.1W |
| 3030 | 3198 031 01830 | 18kΩ 5% 0.01W 0402 |
| 3031 | 2322 706 71003 | 10kΩ 5% 0402 |
| 3032 | 2322 706 71003 | 10kΩ 5% 0402 |
| 3033 | 2322 705 70184 | 180Ω 5% 0402 |
| 3034 | 4822 117 13596 | 220Ω 5% 0.01W 0402 |
| 3035 | 4822 051 20684 | 680kΩ 5% 0.1W |
| 3036 | 2122 612 00068 | NTC 1Ω 20% 6W |
| 3037 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3038 | 4822 117 11297 | 100kΩ 5% 0.1W |
| 3039 | 4822 051 30105 | 1MΩ 5% 0.062W |
| 3040 | 4822 117 10837 | 100kΩ 1% 0.1W |
| 3041 | 4822 117 13603 | 33kΩ 5% 0402 |
| 3042 | 4822 051 30471 | 47Ω 5% 0.062W |
| 3043 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3044 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3045 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3046 | 4822 053 20565 | 5.6MΩ 5% 0.25W |
| 3047 | 3198 031 01540 | 150kΩ 5% 0402 |
| 3048 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3049 | 3198 031 01230 | 12kΩ 5% 0402 |
| 3050 | 4822 052 10398 | 3.9Ω 5% 0,33W |
| 3051 | 4822 051 20822 | 8.2kΩ 5% 0.1W |
| 3052 | 4822 117 12306 | 150kΩ 1% 0.1W |
| 3053 | 2322 662 93131 | PTC 10Ω |
| 3054 | 4822 117 13543 | 470Ω 5% 0402 |
| 3055 | 4822 117 10833 | 10kΩ 1% 0.1W |
| 3056 | 4822 051 30331 | 330Ω 5% 0.062W |
| 3057 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3058 | 4822 051 20105 | 1MΩ 5% 0.1W |
| 3059 | 3198 031 05630 | 56kΩ 5% 0402 |
| 3060 | 4822 050 22204 | 220kΩ 1% 0.6W |
| 3061 | 3198 031 01830 | 18kΩ 5% 0.01W 0402 |
| 3062 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3063 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3064 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3065 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3066 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3067 | 3198 031 01530 | 15kΩ 5% 0.01W 0402 |
| 3068 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3069 | 4822 051 30471 | 47Ω 5% 0.062W |
| 3070 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3071 | 3198 031 04730 | 47Ω 5% 0402 |
| 3073 | 3198 031 01050 | 1MΩ 5% 0402 |
| 3074 | 3198 031 01530 | 15kΩ 5% 0.01W 0402 |
| 3075 | 4822 051 20105 | 1MΩ 5% 0.1W |
| 3076 | 4822 117 11297 | 100kΩ 5% 0.1W |
| 3077 | 4822 051 20105 | 1MΩ 5% 0.1W |
| 3078 | 4822 117 11297 | 100kΩ 5% 0.1W |
| 3079 | 4822 051 30681 | 680Ω 5% 0.062W |
| 3080 | 4822 051 30681 | 680Ω 5% 0.062W |
| 3081 | 3198 031 01520 | 1.2kΩ 5% 0.01W 0402 |
| 3082 | 3198 031 01520 | 1.2kΩ 5% 0.01W 0402 |
| 3083 | 2312 915 11002 | 1kΩ 1% 0.5W |
| 3084 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3085 | 3198 031 04730 | 47Ω 5% 0402 |
| 3086 | 3198 031 04730 | 47Ω 5% 0402 |
| 3087 | 3198 031 04730 | 47Ω 5% 0402 |
| 3088 | 3198 031 04730 | 47Ω 5% 0402 |
| 3089 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3090 | 4822 117 13545 | 100Ω 1% 0402 |
| 3091 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3092 | 4822 051 10102 | 1kΩ 2% 0.25W |
| 3093 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3094 | 4822 051 10102 | 1kΩ 2% 0.25W |
| 3095 | 4822 117 13543 | 470Ω 5% 0402 |
| 3096 | 3198 031 05620 | 5.6kΩ 5% 0.01W 0402 |
| 3097 | 3198 031 08210 | 820Ω 5% 0.5W |
| 3098 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3100 | 2322 706 71002 | 1kΩ 1% 0402 |
| 3101 | 2322 706 71002 | 1kΩ 1% 0402 |
| 3102 | 2322 706 71002 | 1kΩ 1% 0402 |
| 3103 | 2322 706 71002 | 1kΩ 1% 0402 |
| 3104 | 2322 706 71002 | 1kΩ 1% 0402 |
| 3106 | 4822 117 12955 | 2.7kΩ 1% 0.1W 0805 |
| 3107 | 4822 117 12955 | 2.7kΩ 1% 0.1W 0805 |
| 3108 | 4822 117 12955 | 2.7kΩ 1% 0.1W 0805 |
| 3109 | 4822 117 12955 | 2.7kΩ 1% 0.1W 0805 |
| 3110 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3112 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3114 | 2322 705 70564 | 560kΩ 5% 0402 |
| 3115 | 3198 031 02240 | 220kΩ 5% 0.1W 0402 |
| 3116 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3117 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3118 | 2122 118 06084 | 0.051Ω 5% 1W 2512 |
| 3120 | 3198 021 31820 | 1.8kΩ 5% 0.062W 0603 |
| 3121 | 3198 031 04730 | 47Ω 5% 0402 |
| 3123 | 4822 117 10965 | 18kΩ 1% 0.1W |
| 3124 | 2322 704 67502 | 7.5kΩ 1% 0.5W |
| 3125 | 2322 704 67502 | 7.5kΩ 1% 0.5W |
| 3126 | 2322 706 72202 | 2.2kΩ 5% 0402 |
| 3128 | 4822 117 13603 | 33kΩ 5% 0402 |
| 3130 | 4822 051 30123 | 12kΩ 5% 0.1W |
| 3131 | 2322 706 71003 | 10kΩ 5% 0402 |
| 3132 | 4822 117 13596 | 220Ω 5% 0.01W 0402 |
| 3133 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3134 | 4822 051 30681 | 680Ω 5% 0.062W |
| 3135 | 3198 031 04730 | 47Ω 5% 0402 |
| 3136 | 3198 031 04730 | 47Ω 5% 0402 |
| 3143 | 4822 053 12472 | 4.7kΩ 5% 3W |
| 3147 | 2322 706 71003 | 10kΩ 5% 0402 |
| 3149 | 4822 052 10478 | 4.7Ω 5% 0.33W |
| 3150 | 3198 031 01050 | 1MΩ 5% 0402 |
| 3200 | 4822 051 20334 | 330kΩ 5% 0.1W |
| 3202 | 4822 051 30479 | 47Ω 5% 0.062W |
| 3203 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3204 | 4822 117 11297 | 100kΩ 5% 0.1W |
| 3205 | 3198 031 01540 | 150kΩ 5% 0402 |
| 3206 | 4822 117 12955 | 2.7kΩ 1% 0.1W 0805 |
| 3207 | 4822 117 12955 | 2.7kΩ 1% 0.1W 0805 |
| 3208 | 4822 117 12955 | 2.7kΩ 1% 0.1W 0805 |
| 3209 | 4822 117 12955 | 2.7kΩ 1% 0.1W 0805 |
| 3210 | 2322 706 71002 | 1kΩ 1% 0402 |
| 3212 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3213 | 4822 117 13603 | 33kΩ 5% 0402 |
| 3214 | 2322 705 70124 | 120kΩ 5% 0402 |
| 3215 | 2322 705 70274 | 270kΩ 5% 0402 |
| 3216 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3217 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3218 | 2122 118 06084 | 0.051Ω 5% 1W 2512 |
| 3219 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3220 | 4822 050 23309 | 33Ω 1% 0,6W |
| 3224 | 2322 706 71203 | 12kΩ 5% 0402 |
| 3225 | 2322 706 71003 | 10kΩ 5% 0402 |
| 3226 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3228 | 4822 051 30151 | 150Ω 5% 0.062W |
| 3262 | 2322 706 71003 | 10kΩ 5% 0402 |
| 3263 | 2322 706 71003 | 10kΩ 5% 0402 |
| 3265 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3268 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3269 | 3198 031 02720 | 2.7kΩ 5% 0.01W 0402 |
| 3292 | 4822 051 30561 | 560Ω 5% 0.062W |
| 3300 | 2322 706 72204 | 220kΩ 5% 0402 |
| 3301 | 2322 706 72204 | 220kΩ 5% 0402 |
| 3304 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3306 | 2322 706 71003 | 10kΩ 5% 0402 |
| 3307 | 5322 117 13028 | 12kΩ 1% 0.063W 0603 |
| 3308 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3311 | 4822 117 13579 | 220kΩ 1% 0.1W 0805 |
| 3312 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3313 | 2322 704 67502 | 7.5kΩ 1% 0.5W |
| 3317 | 2322 704 67502 | 7.5kΩ 1% 0.5W |
| 3320 | 2322 706 71003 | 10kΩ 5% 0402 |
| 3321 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3322 | 2322 706 73902 | 3.9kΩ 1% 0402 |
| 3323 | 2322 706 71003 | 10kΩ 5% 0402 |
| 3324 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3325 | 4822 051 30471 | 47Ω 5% 0.062W |
| 3326 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3327 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3328 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3332 | 2322 706 76803 | 68kΩ 5% 0402 |
| 3333 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3334 | 2322 706 71003 | 10kΩ 5% 0402 |
| 3335 | 2322 706 71503 | 15kΩ 5% 1W 0402 |
| 3340 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3341 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3342 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3343 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3344 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3345 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3346 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3347 | 4822 051 30331 | 330Ω 5% 0.062W |
| 3348 | 4822 051 30331 | 330Ω 5% 0.062W |
| 3349 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3350 | 4822 051 30472 | 4.7Ω 5% 0.062W |
| 3351 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3352 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3353 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3354 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3358 | 4822 051 30222 | 2.2kΩ 5% 0.062W |
| 3359 | 3198 031 05620 | 5.6kΩ 5% 0.01W 0402 |
| 3360 | 3198 031 01220 | 1.2kΩ 5% 0.01W 0402 |
| 3361 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3362 | 3198 031 02720 | 2.7kΩ 5% 0.01W 0402 |
| 3363 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3364 | 4822 051 30272 | 2.7kΩ 5% 0.062W |
| 3366 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3367 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3369 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3370 | 2322 675 20907 | PTC 470Ω 50% 25V 0805 |
| 3373 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3374 | 3198 031 04730 | 47Ω 5% 0402 |
| 3376 | 3198 031 04730 | 47Ω 5% 0402 |
| 3377 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3378 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3380 | 3198 031 04730 | 47Ω 5% 0402 |
| 3381 | 3198 031 04730 | 47Ω 5% 0402 |
| 3383 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3384 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3386 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3388 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3389 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3390 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3391 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3392 | 3198 031 04730 | 47Ω 5% 0402 |
| 3393 | 3198 031 04730 | 47Ω 5% 0402 |
| 3394 | 3198 031 04730 | 47Ω 5% 0402 |
| 3395 | 3198 031 01540 | 150kΩ 5% 0402 |
| 3397 | 3198 031 04730 | 47Ω 5% 0402 |
| 3398 | 3198 031 04730 | 47Ω 5% 0402 |
| 3399 | 3198 031 05620 | 5.6kΩ 5% 0.01W 0402 |
| 3400 | 2122 550 00158 | VDR 1mA 612V |
| 3401 | 4822 117 10118 | 1MΩ 5% 0.5W |
| 3404 | 4822 116 83872 | 220Ω 5% 0.5W |
| 3450 | 2322 662 93131 | PTC 10Ω |
| 3451 | 2322 662 93131 | PTC 10Ω |
| 3452 | 2122 612 00068 | NTC 1Ω 20% 6W |
| 3460 | 4822 117 13602 | 2.2kΩ 5% 0.01W 0402 |
| 3461 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3463 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3465 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3467 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3469 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3470 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3471 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3472 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3501 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3502 | 4822 051 30471 | 47Ω 5% 0.062W |
| 3503 | 2322 706 74702 | 4.7kΩ 5% 0402 |
| 3504 | 2322 706 73303 | 33kΩ 5% 0402 |
| 3505 | 2322 706 74702 | 4.7kΩ 5% 0402 |
| 3506 | 2322 662 93131 | PTC 10Ω |
| 3507 | 4822 051 20684 | 680kΩ 5% 0.1W |
| 3509 | 2312 915 11209 | 12Ω 1% 0.5W |
| 3603 | 4822 051 20474 | 470kΩ 5% 0.1W |
| 3604 | 4822 051 20474 | 470kΩ 5% 0.1W |
| 3605 | 4822 051 20474 | 470kΩ 5% 0.1W |
| 3606 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3607 | 4822 117 12891 | 220kΩ 1% |
| 3608 | 2312 915 11209 | 12Ω 1% 0.5W |
| 3609 | 4822 051 20474 | 470kΩ 5% 0.1W |
| 3610 | 4822 050 23308 | 3.3Ω 1% 0.6W |
| 3611 | 4822 050 21003 | 10kΩ 1% 0.6W |
| 3613 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3614 | 2322 194 95001 | 0.27Ω 5% 2W |
| 3615 | 2322 194 95001 | 0.27Ω 5% 2W |
| 3616 | 3198 031 01230 | 12kΩ 5% 0402 |
| 3617 | 3198 031 04730 | 47Ω 5% 0402 |
| 3618 | 4822 117 13603 | 33kΩ 5% 0402 |
| 3619 | 3198 031 03320 | 3.3kΩ 5% 0402 |
| 3620 | 2322 194 95001 | 0.27Ω 5% 2W |
| 3621 | 4822 050 22208 | 2,2Ω 1% 0,6W |
| 3622 | 4822 050 22208 | 2.2Ω 1% 0,6W |
| 3623 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3639 | 4822 051 10102 | 1kΩ 2% 0.25W |
| 3640 | 4822 051 30331 | 330Ω 5% 0.062W |
| 3641 | 4822 051 20471 | 470Ω 5% 0.1W |
| 3642 | 4822 117 11503 | 220Ω 1% 0.1W |
| 3643 | 4822 117 11503 | 220Ω 1% 0.1W |
| 3651 | 4822 117 13601 | 22kΩ 5% 0402 |
| 3652 | 3198 031 01050 | 1MΩ 5% 0402 |
| 3654 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3655 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3656 | 3198 031 01820 | 1.8kΩ 5% 0.01W 0402 |
| 3659 | 4822 117 11503 | 220Ω 1% 0.1W |
| 3660 | 4822 117 11504 | 270Ω 1% 0.1W |
| 3661 | 4822 117 11504 | 270Ω 1% 0.1W |
| 3663 | 4822 052 10108 | 1Ω 5% 0.33W |
| 3664 | 2322 706 71204 | 120kΩ 5% 0402 |
| 3665 | 2322 705 70274 | 270kΩ 5% 0402 |
| 3666 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3668 | 4822 052 11102 | 1kΩ 5% 0.5W |
| 3669 | 2322 706 71204 | 120kΩ 5% 0402 |
| 3671 | 2322 706 71003 | 10kΩ 5% 0402 |
| 3673 | 4822 052 11102 | 1kΩ 5% 0.5W |
| 3675 | 2322 702 60158 | 1.5Ω |
| 3676 | 2322 706 74702 | 4.7kΩ 5% 0402 |
| 3677 | 2322 706 74703 | 47kΩ 1% 0402 |
| 3678 | 3198 031 04730 | 47Ω 5% 0402 |
| 3679 | 4822 117 12306 | 150kΩ 1% 0.1W |
| 3680 | 4822 117 13579 | 220kΩ 1% 0.1W 0805 |
| 3681 | 4822 117 13579 | 220kΩ 1% 0.1W 0805 |
| 3682 | 4822 117 13579 | 220kΩ 1% 0.1W 0805 |
| 3683 | 4822 051 20334 | 330kΩ 5% 0.1W |
| 3684 | 4822 051 20334 | 330kΩ 5% 0.1W |
| 3685 | 4822 051 20334 | 330kΩ 5% 0.1W |

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|---|---|---|
| 3686 | 4822 117 12971 | 15Ω 5% 0603 0.62W |
| 3690 | 3198 031 03920 | 3.9kΩ 5% 0402 |
| 3691 | 3198 031 08220 | 8.2kΩ 5% 0.5W |
| 3692 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3693 | 4822 117 13602 | 2.2kΩ 5% 0.01W 0402 |
| 3806 | 4822 117 13543 | 470Ω 5% 0402 |
| 3807 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3808 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3809 | 3198 031 02730 | 27kΩ 5% 0402 |
| 3811 | 4822 117 13545 | 100Ω 1% 0402 |
| 3999 | 4822 117 13548 | 1kΩ 5% 0402 |
| 9001 | 4822 051 20008 | Jumper 0805 |
| 9020 | 4822 051 20008 | Jumper 0805 |
| 9028 | 4822 117 13605 | Jumper 0402 |

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|---|---|---|
| 5001 | 2422 531 02444 | Transf. S13932-04Y |
| 5002▲ | 3104 308 21022 | Transf. BS42315-02 |
| 5004▲ | 3104 308 21022 | Transf. BS42315-02 |
| 5005 | 3122 138 38901 | Mains filter CU28D3 |
| 5121 | 3104 308 20771 | Bridge coil BD21232-00 |
| 5220 | 3104 308 20911 | Transf. BS29238-00 |
| 5225 | 2422 536 00672 | 4.7µH 20% |
| 5229 | 2422 536 00826 | 220µH 10% |
| 5290 | 3104 308 21171 | Transf. BD15403-00 |
| 5291 | 4822 157 11737 | 22µH 10% |
| 5292 | 4822 157 11737 | 22µH 10% |
| 5293 | 4822 157 11737 | 22µH 10% |
| 5401 | 3122 138 38901 | Mains filter CU28D3 |
| 5402 | 3122 138 38901 | Mains filter CU28D3 |
| 5500 | 2422 531 00102 | Transf. BS16510-01 Y |
| 5503 | 2422 535 94639 | 10µH 20% |
| 5600 | 3104 308 20821 | Coil BS42228-00 B |
| 5601 | 4822 157 11411 | Bead 80Ω at 100MHz |
| 5612 | 4822 157 11411 | Bead 80Ω at 100MHz |
| 5660 | 4822 157 51192 | 220µH 10% |

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| | | |
|---|---|---|
| 6002 | 4822 130 11397 | BAS316 |
| 6003 | 9340 548 71115 | PDZ33B |
| 6004 | 4822 130 11397 | BAS316 |
| 6005 | 4822 130 11397 | BAS316 |
| 6006 | 4822 130 11397 | BAS316 |
| 6007 | 4822 130 11397 | BAS316 |
| 6008 | 4822 130 11397 | BAS316 |
| 6009 | 4822 130 11397 | BAS316 |
| 6010 | 4822 130 11397 | BAS316 |
| 6011 | 4822 130 11397 | BAS316 |
| 6012 | 3198 020 55680 | BZX384-C5V6 |
| 6018 | 4822 130 11397 | BAS316 |
| 6019 | 4822 130 11397 | BAS316 |
| 6021 | 4822 130 32961 | BYV28-200 |
| 6023 | 4822 130 11397 | BAS316 |
| 6027 | 4822 130 11397 | BAS316 |
| 6028 | 4822 130 11397 | BAS316 |
| 6029 | 4822 130 11416 | PDZ6.8B |
| 6031 | 3198 020 55680 | BZX384-C5V6 |
| 6032 | 3198 020 55680 | BZX384-C5V6 |
| 6033 | 9322 150 18685 | BZX384-C47 |
| 6034 | 4822 130 11397 | BAS316 |
| 6035 | 4822 130 11397 | BAS316 |
| 6042 | 9322 150 18685 | BZX384-C47 |
| 6044 | 9322 202 88687 | STTH2003CFP |
| 6045 | 4822 130 32961 | BYV28-200 |
| 6050 | 4822 130 11152 | UDZ18B |
| 6054 | 9340 553 52115 | BAS321 |
| 6055 | 9340 553 52115 | BAS321 |
| 6061 | 4822 130 11152 | UDZ18B |
| 6062 | 4822 130 11152 | UDZ18B |
| 6075 | 9340 292 80135 | BZG03-C270 |
| 6077 | 9340 292 80135 | BZG03-C270 |
| 6086 | 4822 130 11397 | BAS316 |
| 6111 | 9340 553 52115 | BAS321 |
| 6112 | 9340 553 52115 | BAS321 |
| 6113 | 4822 130 11397 | BAS316 |
| 6114 | 4822 130 11416 | PDZ6.8B |
| 6117 | 4822 130 11152 | UDZ18B |
| 6120 | 9322 202 75687 | BYW29FP-200 |
| 6123 | 4822 130 11397 | BAS316 |
| 6133 | 4822 130 11397 | BAS316 |
| 6142 | 9322 192 15668 | SM S3J |
| 6201 | 3198 020 55680 | BZX384-C5V6 |
| 6202 | 4822 130 11397 | BAS316 |
| 6204 | 3198 020 55680 | BZX384-C5V6 |
| 6205 | 4822 130 11152 | UDZ18B |
| 6206 | 4822 130 11397 | BAS316 |
| 6211 | 9322 202 55685 | BYG22D |
| 6213 | 4822 130 11397 | BAS316 |
| 6216 | 4822 130 11152 | UDZ18B |
| 6225 | 9322 173 47687 | STPS20L40CFP |
| 6230 | 9322 155 79685 | EC31QS04 |
| 6267 | 4822 130 82627 | SB540 |
| 6269 | 9322 099 61685 | BYG10J |
| 6270 | 9322 099 61685 | BYG10J |
| 6291 | 4822 130 11572 | STPS8H100F |
| 6292 | 4822 130 11572 | STPS8H100F |
| 6312 | 4822 130 80622 | BAT54 |
| 6313 | 4822 130 80622 | BAT54 |
| 6321 | 4822 130 80622 | BAT54 |
| 6322 | 4822 130 80622 | BAT54 |
| 6325 | 4822 130 11416 | PDZ6.8B |
| 6333 | 4822 130 80622 | BAT54 |
| 6334 | 4822 130 80622 | BAT54 |
| 6335 | 4822 130 11397 | BAS316 |
| 6340 | 4822 130 80622 | BAT54 |
| 6341 | 4822 130 80622 | BAT54 |
| 6344 | 4822 130 10838 | UDZ3.3B |
| 6347 | 4822 130 80622 | BAT54 |
| 6362 | 4822 130 11397 | BAS316 |
| 6364 | 4822 130 11397 | BAS316 |
| 6365 | 4822 130 11397 | BAS316 |
| 6366 | 4822 130 11397 | BAS316 |
| 6367 | 4822 130 11397 | BAS316 |
| 6375 | 4822 130 11397 | BAS316 |
| 6376 | 4822 130 11397 | BAS316 |
| 6378 | 4822 130 80622 | BAT54 |
| 6460 | 4822 130 11397 | BAS316 |
| 6461 | 4822 130 11397 | BAS316 |
| 6470 | 4822 130 11397 | BAS316 |
| 6471 | 4822 130 11397 | BAS316 |
| 6501 | 9322 218 64673 | BZT03C200 |
| 6502 | 9322 218 64673 | BZT03C200 |
| 6503 | 9322 176 76668 | RS1J |
| 6504 | 9322 176 76668 | RS1J |
| 6505 | 9322 155 79685 | EC31QS04 |
| 6506 | 9322 218 64673 | BZT03C200 |
| 6507 | 9322 155 79685 | EC31QS04 |
| 6508 | 9322 128 69685 | S1D |
| 6510 | 9322 099 61685 | BYG10J |
| 6511 | 9322 099 61685 | BYG10J |
| 6512 | 9322 099 61685 | BYG10J |
| 6513 | 9322 099 61685 | BYG10J |
| 6600 | 9322 177 84667 | GBU8JL-7014 |
| 6601 | 9322 150 17685 | BZX384-C39 |
| 6602 | 4822 130 11522 | UDZ15B |
| 6605 | 9322 192 15668 | SM S3J |
| 6606 | 9322 192 15668 | SM S3J |
| 6608 | 9322 128 70685 | SMSS14 |
| 6609 | 9322 208 81685 | BZG05C18 |
| 6611 | 3139 120 52021 | BYV29X-500 |
| 6640 | 9322 128 70685 | SMSS14 |
| 6641 | 4822 130 11397 | BAS316 |
| 6642 | 9322 128 70685 | SMSS14 |
| 6643 | 4822 130 11152 | UDZ18B |
| 6651 | 4822 130 80622 | BAT54 |
| 6652 | 9322 128 70685 | SMSS14 |
| 6653 | 4822 130 10837 | UDZS8.2B |
| 6654 | 4822 130 11397 | BAS316 |
| 6660 | 9322 202 55685 | BYG22D |
| 6661 | 9322 202 55685 | BYG22D |
| 6663 | 9322 198 81685 | SL04 |
| 6665 | 9322 198 81685 | SL04 |
| 6666 | 4822 130 10837 | UDZS8.2B |

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|---|---|---|
| 7001 | 9322 108 21682 | MC34067P |
| 7002 | 9322 149 04682 | TCET1102 |
| 7003 | 9322 149 04682 | TCET1102 |
| 7004 | 9322 192 17685 | P0102BL |
| 7005 | 9322 192 18687 | STP15NK50ZFP |
| 7006 | 9322 192 18687 | STP15NK50ZFP |
| 7007 | 4822 130 41246 | BC327-25 |
| 7008 | 4822 130 41246 | BC327-25 |
| 7009 | 3198 010 42310 | BC847BW |
| 7010 | 9322 192 16685 | TS2431AI |
| 7011 | 9322 192 16685 | TS2431AI |
| 7012 | 3198 010 42310 | BC847BW |
| 7013 | 5322 130 63033 | BCP56 |
| 7017 | 3198 010 42320 | BC857BW |
| 7018 | 3198 010 42310 | BC847BW |
| 7020 | 9335 671 30126 | BC517 |
| 7021 | 9335 671 30126 | BC517 |
| 7042 | 9340 308 50135 | PMST5401 |
| 7050 | 9340 557 16127 | PSMN035-150P |
| 7052 | 9340 557 58118 | PSMN063-150D |
| 7058 | 3198 010 42310 | BC847BW |
| 7059 | 9340 308 60135 | PMST5550 |
| 7090 | 3198 010 42320 | BC857BW |
| 7091 | 3198 010 42320 | BC857BW |
| 7092 | 3198 010 44350 | BC807-25W |
| 7093 | 4822 209 80591 | LM317T |
| 7110 | 9340 308 50135 | PMST5401 |
| 7112 | 9352 673 56112 | TEA1507p/N1 |
| 7117 | 9340 557 17118 | PSMN035-150B |
| 7120 | 9322 149 04682 | TCET1102 |
| 7121 | 9322 192 16685 | TS2431AI |
| 7130 | 9322 192 16685 | TS2431AI |
| 7134 | 3198 010 42310 | BC847BW |
| 7200 | 9340 565 06215 | BSH114 |
| 7202 | 9965 000 04199 | BSN20 |
| 7212 | 9352 673 56112 | TEA1507p/N1 |
| 7217 | 9340 557 18127 | PSMN070-200P |
| 7220 | 9322 149 04682 | TCET1102 |
| 7227 | 9322 192 16685 | TS2431AI |
| 7230 | 9322 205 64687 | L4940P85 |
| 7260 | 9322 166 31682 | L4973V3.3 |
| 7304 | 9322 192 16685 | TS2431AI |
| 7308 | 9322 213 35668 | LM339P |
| 7326 | 3198 010 42310 | BC847BW |
| 7327 | 3198 010 42310 | BC847BW |
| 7330 | 9322 213 35668 | LM339P |
| 7341 | 3198 010 42320 | BC857BW |
| 7348 | 3198 010 42310 | BC847BW |
| 7351 | 3198 010 42310 | BC847BW |
| 7352 | 3198 010 42310 | BC847BW |
| 7362 | 3198 010 42310 | BC847BW |
| 7363 | 3198 010 42310 | BC847BW |
| 7366 | 9322 213 19668 | LM324APW |
| 7375 | 3198 010 42310 | BC847BW |
| 7376 | 3198 010 42310 | BC847BW |
| 7391 | 3198 010 42320 | BC857BW |
| 7460 | 9340 219 30115 | BC817-25W |
| 7461 | 4822 130 60142 | BC869 |
| 7465 | 3198 010 42320 | BC857BW |
| 7470 | 9340 219 30115 | BC817-25W |
| 7500 | 9322 037 99682 | TNY256P |
| 7501 | 9322 149 04682 | TCET1102 |
| 7502 | 9322 192 16685 | TS2431AI |
| 7540 | 4822 209 17398 | LD1117DT33 |
| 7601 | 3198 010 42310 | BC847BW |
| 7602 | 3198 010 42320 | BC857BW |
| 7608 | 5322 130 44593 | BC369 |
| 7610 | 9322 223 21687 | STW29NK50Z |
| 7640 | 9965 000 04199 | BSN20 |
| 7641 | 9340 219 30115 | BC817-25W |
| 7650 | 9322 130 69682 | MC33368P |
| 7654 | 3198 010 42320 | BC857BW |
| 7655 | 3198 010 42310 | BC847BW |
| 7656 | 3198 010 42310 | BC847BW |
| 7661 | 5322 209 90529 | MC34063AD |

## Small Signal Board [B]

### Various

| | | |
|---|---|---|
| 1062 | 2422 549 00148 | Socket 3p m |
| 1062▲ | 2422 549 00151 | Socket 3p m |
| 1101 | 2422 025 18749 | Connector 3p m |
| 1102 | 3139 147 19801 | Tuner UV1318S/A IH -3 |
| 1104 | 2422 549 44372 | SAW 38.9MHz K3953L |
| 1106 | 2422 549 44369 | SAW 38.9MHz K9656L |
| 1107 | 2422 025 18749 | Connector 3p m |
| 1202 | 2422 543 01414 | Xtal 24.576MHz |
| 1801 | 2422 543 01133 | Xtal 14.32MHz 20pF |
| 1F00 | 2422 033 00515 | Socket DVI-I 29p f |
| 1F01 | 2422 026 05703 | Socket 1P f |
| 1G01 | 2422 025 18959 | Socket 21P f shd |
| 1G02 | 2422 025 18959 | Socket 21P f shd |
| 1J00 | 2422 025 10771 | Connector 10p m |
| 1J01 | 2422 025 10655 | Connector 11p m |
| 1J04 | 2422 025 10769 | Connector 9p m |
| 1J07▲ | 2422 086 11081 | Fuse T3A 125V |
| 1J08▲ | 2422 086 11105 | Fuse F630mA 50V |
| 1K00 | 2422 025 08149 | Connector 6p m |
| 1K02 | 2422 025 10768 | Connector 3p m |
| 1K04 | 2422 025 10655 | Connector 11p m |
| 1N01 | 2422 025 17274 | Connector 10p m |
| 1N02 | 2422 025 18779 | Connector 4P m |
| 1N05 | 2722 171 08825 | Xtal 14.31818Mhz 15pF |
| 1P01 | 2422 549 45325 | Bead 67Ω at 100MHz |
| 1P02 | 2422 549 45325 | Bead 67Ω at 100MHz |
| 1P03 | 2422 549 45325 | Bead 67Ω at 100MHz |
| 1P04 | 2422 549 45325 | Bead 67Ω at 100MHz |
| 1P05 | 2422 549 45325 | Bead 67Ω at 100MHz |
| 1P07 | 2422 025 18427 | Connector 31p f |
| 8321 | 3104 311 08731 | Cable POSI/100/POSI |

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| | | |
|---|---|---|
| 2101 | 4822 124 12095 | 100µF 20% 16V |
| 2102 | 5322 126 11583 | 10nF 10% 50V 0603 |
| 2103 | 5322 126 11583 | 10nF 10% 50V 0603 |
| 2104 | 4822 122 33761 | 22pF 5% 50V |

| | | |
|---|---|---|
| 2105 | 4822 122 33761 | 22pF 5% 50V |
| 2106 | 5322 126 11583 | 10nF 10% 50V 0603 |
| 2107 | 3198 024 44730 | 47nF 50V 0603 |
| 2109 | 5322 124 41945 | 22µF 20% 35V |
| 2113 | 4822 124 12095 | 100µF 20% 16V |
| 2203 | 4822 124 23002 | 10µF 16V |
| 2206 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2207 | 2020 552 96718 | 220nF 10% 6.3V 0402 |
| 2208 | 4822 124 12084 | 1µF 20% 50V |
| 2209 | 4822 124 23002 | 10µF 16V |
| 2210 | 2020 552 96718 | 220nF 10% 6.3V 0402 |
| 2211 | 2020 552 96628 | 10nF 10% 16V 0402 |
| 2214 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2216 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2218 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2221 | 4822 124 12095 | 100µF 20% 16V |
| 2223 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2225 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2226 | 3198 035 03320 | 3.3nF 5% 50V 0402 |
| 2227 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2228 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2230 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2231 | 2020 552 96718 | 220nF 10% 6.3V 0402 |
| 2232 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2233 | 4822 124 23002 | 10µF 16V |
| 2234 | 2020 552 96718 | 220nF 10% 6.3V 0402 |
| 2235 | 2020 552 96718 | 220nF 10% 6.3V 0402 |
| 2236 | 4822 126 14076 | 220nF +80/-20% 25V |
| 2237 | 2020 552 96718 | 220nF 10% 6.3V 0402 |
| 2238 | 2020 552 96718 | 220nF 10% 6.3V 0402 |
| 2239 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2240 | 2020 552 96718 | 220nF 10% 6.3V 0402 |
| 2241 | 2020 552 96718 | 220nF 10% 6.3V 0402 |
| 2242 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2243 | 4822 124 23002 | 10µF 16V |
| 2244 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2245 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2246 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2250 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2251 | 2020 552 96656 | 10µF 20% 25V 1210 |
| 2252 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2253 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2254 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2255 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2256 | 4822 124 23002 | 10µF 16V |
| 2257 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2258 | 2020 552 96637 | 10µF 10% 6.3V 0805 |
| 2259 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2260 | 2020 552 96637 | 10µF 10% 6.3V 0805 |
| 2262 | 4822 124 12082 | 10µF 20% 50V |
| 2263 | 3198 035 26820 | 6.8nF 10% 16V 0402 |
| 2264 | 3198 017 44740 | 470nF 10V 0603 |
| 2265 | 3198 017 41050 | 1µF 10V 0603 |
| 2266 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2267 | 2020 552 96718 | 220nF 10% 6.3V 0402 |
| 2269 | 2020 012 00003 | 470µF 16V 20% SMD |
| 2270 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2271 | 4822 124 12095 | 100µF 20% 16V |
| 2272 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2273 | 2020 552 96718 | 220nF 10% 6.3V 0402 |
| 2274 | 3198 017 31540 | 150nF 10V 0603 |
| 2277 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2280 | 2020 552 00027 | 4.7µF 2% 6.3V 0603 |
| 2281 | 2020 552 00027 | 4.7µF 2% 6.3V 0603 |
| 2285▲ | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2286 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2289▲ | 4822 051 30151 | 150Ω 5% 0.062W |
| 2290▲ | 2222 240 59872 | 4.7µF 5% 10V 0805 |
| 2291▲ | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2449 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2501 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2502 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2503 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2504 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2505 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2506 | 3198 035 03310 | 330pF 5% 50V 0402 |
| 2507 | 3198 035 04710 | 470pF 50V 0402 |
| 2508 | 2238 869 15829 | 82pF 5% 50V 0402 |
| 2509 | 2238 869 15829 | 82pF 5% 50V 0402 |
| 2603 | 2020 552 96834 | 1µF 20% 6.3V 0402 |
| 2604 | 3198 035 04710 | 470pF 50V 0402 |
| 2605 | 2020 552 96834 | 1µF 20% 6.3V 0402 |
| 2608 | 2020 552 96834 | 1µF 20% 6.3V 0402 |
| 2609 | 3198 035 04710 | 470pF 50V 0402 |
| 2610 | 2020 552 96834 | 1µF 20% 6.3V 0402 |
| 2611 | 4822 124 12095 | 100µF 20% 16V |
| 2612 | 3198 017 41050 | 1µF 10V 0603 |
| 2614 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2615 | 2020 012 00003 | 470µF 16V 20% SMD |
| 2618 | 2020 012 00003 | 470µF 16V 20% SMD |
| 2704 | 4822 124 23002 | 10µF 16V |
| 2706 | 4822 124 23002 | 10µF 16V |
| 2709 | 4822 124 80151 | 47µF 16V |
| 2710 | 2020 552 96656 | 10µF 20% 25V 1210 |
| 2711 | 2020 552 96656 | 10µF 20% 25V 1210 |
| 2713 | 2020 012 00028 | 470µF 20% 16V |
| 2714 | 3198 035 02210 | 220pF 5% 50V 0402 |
| 2715 | 2020 552 96455 | 22nF 10% 16V 0402 |
| 2716 | 2020 012 00028 | 470µF 20% 16V |
| 2730 | 2020 552 96656 | 10µF 20% 25V 1210 |
| 2731 | 2020 012 00003 | 470µF 16V 20% SMD |
| 2733 | 3198 035 02210 | 220pF 5% 50V 0402 |
| 2734 | 2238 787 16641 | 22nF 10% 16V 0402 |
| 2735 | 3198 035 04710 | 470pF 50V 0402 |
| 2736 | 2022 031 00308 | 22µF 20% 35V |
| 2737 | 2020 012 00003 | 470µF 16V 20% SMD |
| 2738 | 4822 124 80151 | 47µF 16V |
| 2739 | 4822 124 80151 | 47µF 16V |
| 2741 | 4822 126 13879 | 220nF +80-20% 16V |
| 2750 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2753 | 2020 012 00003 | 470µF 16V 20% SMD |
| 2755 | 3198 035 14720 | 4.7nF 5% 25V 0402 |
| 2756 | 3198 035 04710 | 470pF 50V 0402 |
| 2757 | 2020 012 00003 | 470µF 16V 20% SMD |
| 2758 | 2020 012 00003 | 470µF 16V 20% SMD |
| 2761 | 2020 552 96671 | 1µF 10% 25V |
| 2762 | 4822 124 23237 | 22µF 6.3V |
| 2800 | 2020 021 91557 | 100µF 20% 16V |
| 2801 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2802 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2803 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2804 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2805 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2806 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2807 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2808 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2809 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2810 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2811 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2812 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2813 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2814 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2815 | 5322 124 41945 | 22µF 20% 35V |
| 2816 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2817 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2818 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2819 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2820 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2821 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2822 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2823 | 4822 126 14519 | 22pF 5% 50V 0402 |
| 2824 | 4822 126 14519 | 22pF 5% 50V 0402 |
| 2900 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2901 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2902 | 2020 021 00046 | 470µF 20% 16V |
| 2903 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2904 | 4822 124 80151 | 47µF 16V |
| 2905 | 2020 021 91557 | 100µF 20% 16V |
| 2906 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2907 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2908 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2909 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2910 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2911 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2912 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2913 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2914 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2915 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2916 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2917 | 2020 021 91557 | 100µF 20% 16V |
| 2918 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2919 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2920 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2921 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2922 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2923 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2924 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2925 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2926 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2927 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2928 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2929 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2930 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2931 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2932 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2933 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2934 | 4822 124 80151 | 47µF 16V |
| 2935 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2936 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2937 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2938 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2939 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2940 | 4822 124 80151 | 47µF 16V |
| 2941 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2942 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2945 | 5322 124 41945 | 22µF 20% 35V |
| 2946 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2947 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2948 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2949 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2950 | 5322 124 41945 | 22µF 20% 35V |
| 2951 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2952 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2953 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2954 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2955 | 5322 124 41945 | 22µF 20% 35V |
| 2956 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2957 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2958 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2959 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2A00 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2A01 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2A02 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2A12 | 2020 552 96628 | 10nF 10% 16V 0402 |
| 2A13 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B01 | 4822 124 80151 | 47µF 16V |
| 2B02 | 4822 124 11131 | 47µF 6.3V |
| 2B03 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B04 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B05 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B06 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B07 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B08 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B09 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B10 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B11 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B12 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B13 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B14 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B15 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B16 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B17 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2B18 | 5322 124 41945 | 22µF 20% 35V |
| 2C00 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2C01 | 4822 124 23002 | 10µF 16V |
| 2C02 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2C03 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E00 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2E01 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2E02 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2E03 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E04 | 2020 552 96834 | 1µF 20% 6.3V 0402 |
| 2E05 | 2020 552 96834 | 1µF 20% 6.3V 0402 |
| 2E06 | 2020 552 96834 | 1µF 20% 6.3V 0402 |
| 2E07 | 4822 126 14324 | 33pF 5% 50V 0402 |
| 2E08 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2E09 | 4822 126 14324 | 33pF 5% 50V 0402 |
| 2E10 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2E11 | 4822 126 14324 | 33pF 5% 50V 0402 |
| 2E12 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2E13 | 3198 017 41050 | 1µF 10V 0603 |
| 2E14 | 4822 126 14324 | 33pF 5% 50V 0402 |
| 2E15 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E16 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E17 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E18 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E19 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E20 | 4822 124 11131 | 47µF 6.3V |
| 2E21 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2E22 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2E23 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2E24 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E25 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E26 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E27 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E28 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E29 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E30 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E31 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E32 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2E33 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2E34 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2E35 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2E36 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2F04 | 2020 552 94427 | 100pF 5% 50V |
| 2F07 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2F08 | 4822 126 14241 | 330pF 0603 50V |
| 2F09 | 4822 126 14241 | 330pF 0603 50V |
| 2F10 | 2020 552 94427 | 100pF 5% 50V |
| 2F11 | 4822 126 14241 | 330pF 0603 50V |
| 2F12 | 4822 126 14241 | 330pF 0603 50V |
| 2F13 | 4822 126 14508 | 180pF 5% 50V 0603 |
| 2F14 | 4822 126 14508 | 180pF 5% 50V 0603 |
| 2F15 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2F16 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2G05 | 4822 126 14241 | 330pF 0603 50V |
| 2G06 | 4822 126 14508 | 180pF 5% 50V 0603 |
| 2G07 | 4822 124 23002 | 10µF 16V |
| 2G08 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2G09 | 4822 126 14241 | 330pF 0603 50V |
| 2G10 | 4822 126 14508 | 180pF 5% 50V 0603 |
| 2G11 | 4822 124 23002 | 10µF 16V |

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| | | |
|---|---|---|
| 2G12 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2G18 | 4822 126 14241 | 330pF 0603 50V |
| 2G19 | 4822 126 14508 | 180pF 5% 50V 0603 |
| 2G20 | 4822 124 23002 | 10µF 16V |
| 2G21 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2G22 | 4822 126 14241 | 330pF 0603 50V |
| 2G23 | 4822 126 14508 | 180pF 5% 50V 0603 |
| 2G24 | 4822 124 23002 | 10µF 16V |
| 2G25 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2G26 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2G28 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2G47 | 2238 586 59812 | 100nF 20% 50V 0603 |
| 2G55 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2G56 | 2020 552 00005 | 4.7µF 10% 6.3V 0603 |
| 2J02 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2J03 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2J17 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2J18 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2J19 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2J21 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2J22 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2J23 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2J26 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2J27 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2J28 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2J29 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2J30 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2J31 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2J35 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2K00 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2K01 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2K02 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2K03 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2K04 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2K05 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2K06 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K07 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K08 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2K10 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K11 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K12 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2K13 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K14 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K16 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K17 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K18 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K19 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2K20 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2K21 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K22 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K23 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K24 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K25 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K26 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K27 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2K28 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2L02 | 2020 552 96637 | 10µF 10% 6.3V 0805 |
| 2L03 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L04 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L05 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L06 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L07 | 2020 552 96637 | 10µF 10% 6.3V 0805 |
| 2L08 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L09 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L10 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L11 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L13 | 3198 035 74730 | 47nF 5% 16V 0402 |
| 2L17 | 3198 035 74730 | 47nF 5% 16V 0402 |
| 2L20 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L21 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L22 | 2020 552 96637 | 10µF 10% 6.3V 0805 |
| 2L23 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L24 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L26 | 2020 552 96718 | 220nF 10% 6.3V 0402 |
| 2L27 | 4822 124 23002 | 10µF 16V |
| 2L28 | 4822 124 23002 | 10µF 16V |
| 2L29 | 4822 124 23002 | 10µF 16V |
| 2L30 | 4822 124 23002 | 10µF 16V |
| 2L31 | 4822 124 12095 | 100µF 20% 16V |
| 2L32 | 4822 124 12095 | 100µF 20% 16V |
| 2L33 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L34 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2L37 | 4822 126 14524 | 68pF 5% 50V 0402 |
| 2L39 | 2238 869 15829 | 82pF 5% 50V 0402 |
| 2M00 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M01 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M02 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M03 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M04 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M05 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M06 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M07 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M08 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M09 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M10 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M11 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M12 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M13 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M14 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M15 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M16 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M17 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M18 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M19 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M20 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M21 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2M22 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M23 | 4822 124 12095 | 100µF 20% 16V |
| 2M24 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M25 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M26 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M27 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M28 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M29 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M30 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M31 | 4822 124 12095 | 100µF 20% 16V |
| 2M32 | 4822 124 12095 | 100µF 20% 16V |
| 2M56 | 4822 124 12095 | 100µF 20% 16V |
| 2M65 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M66 | 4822 124 12095 | 100µF 20% 16V |
| 2M67 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2M68 | 4822 124 12095 | 100µF 20% 16V |
| 2N01 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2N02 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2N03 | 2020 552 96834 | 1µF 20% 6.3V 0402 |
| 2N04 | 2020 552 96618 | 1nF 10% 50V 0402 |
| 2N05 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2N06 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2N07 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2N08 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2N09 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2N10 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2N11 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2N12 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2N13 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2N14 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2N15 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2N16 | 2238 869 15101 | 100pF 5% 50V 0402 |
| 2P01 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2P02 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P03 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P04 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P05 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P06 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P07 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P08 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P09 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P10 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P11 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P12 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P13 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P14 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P15 | 4822 124 12095 | 100µF 20% 16V |
| 2P16 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P17 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2P18 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2P19 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P20 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P21 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P22 | 2020 552 00035 | 2.2µF 6.3V 10% 0603 |
| 2P23 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P24 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P25 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P26 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P27 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P28 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P29 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P30 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P31 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P32 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P33 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P34 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P35 | 3198 035 71040 | 100nF 10% 16V 0402 |
| 2P36 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2P37 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2P38 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2P39 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2P40 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2P41 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2P42 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2P43 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2P44 | 2238 869 15109 | 10pF 5% 50V 0402 |
| 2P45 | 2238 869 15109 | 10pF 5% 50V 0402 |

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| | | |
|---|---|---|
| 3103 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3104 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3105 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3107 | 4822 051 30682 | 6.8Ω 5% 0.062W |
| 3108 | 4822 051 30222 | 2.2kΩ 5% 0.062W |
| 3109 | 4822 051 30222 | 2.2kΩ 5% 0.062W |
| 3111 | 4822 051 30223 | 22kΩ 5% 0.062W |
| 3112 | 4822 051 30183 | 18kΩ 5% 0.062W |
| 3120 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3121 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3122 | 4822 117 13545 | 100Ω 1% 0402 |
| 3123 | 4822 117 13545 | 100Ω 1% 0402 |
| 3124 | 4822 117 13545 | 100Ω 1% 0402 |
| 3125 | 4822 117 13545 | 100Ω 1% 0402 |
| 3207 | 3198 031 06810 | 680Ω 5% 0.01W 0402 |
| 3208 | 4822 117 13545 | 100Ω 1% 0402 |
| 3209 | 4822 117 13545 | 100Ω 1% 0402 |
| 3210 | 4822 117 13545 | 100Ω 1% 0402 |
| 3211 | 4822 117 13545 | 100Ω 1% 0402 |
| 3212 | 4822 117 13545 | 100Ω 1% 0402 |
| 3213 | 4822 117 13545 | 100Ω 1% 0402 |
| 3214 | 3198 031 06810 | 680Ω 5% 0.01W 0402 |
| 3215 | 3198 031 02710 | 270Ω 5% 0.1W 0402 |
| 3216 | 4822 117 13597 | 330Ω 5% 0402 0.01W |
| 3217 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3218 | 4822 117 11297 | 100kΩ 5% 0.1W |
| 3219 | 4822 117 13545 | 100Ω 1% 0402 |
| 3220 | 3198 031 04730 | 47Ω 5% 0402 |
| 3222 | 4822 117 13545 | 100Ω 1% 0402 |
| 3223 | 3198 031 01090 | 10Ω 5% 0.01W 0402 |
| 3224 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3225 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3226 | 4822 117 13545 | 100Ω 1% 0402 |
| 3227 | 4822 117 13545 | 100Ω 1% 0402 |
| 3229 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3230 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3231 | 4822 117 13602 | 2.2kΩ 5% 0.01W 0402 |
| 3232 | 3198 031 03320 | 3.3kΩ 5% 0402 |
| 3233 | 3198 031 03320 | 3.3kΩ 5% 0402 |
| 3234 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3235 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3236 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3238 | 4822 117 13545 | 100Ω 1% 0402 |
| 3239 | 4822 117 13545 | 100Ω 1% 0402 |
| 3240 | 2322 704 61002 | 1kΩ 1% |
| 3241 | 4822 117 13545 | 100Ω 1% 0402 |
| 3242 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3243 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3245 | 3198 031 02240 | 220kΩ 5% 0.1W 0402 |
| 3246 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3247 | 4822 117 13545 | 100Ω 1% 0402 |
| 3248 | 4822 117 13545 | 100Ω 1% 0402 |
| 3249 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3250 | 4822 117 13545 | 100Ω 1% 0402 |
| 3251 | 4822 117 13545 | 100Ω 1% 0402 |
| 3252 | 4822 117 13545 | 100Ω 1% 0402 |
| 3253 | 4822 117 13545 | 100Ω 1% 0402 |
| 3255 | 4822 117 13605 | Jumper 0402 |
| 3256 | 4822 117 13605 | Jumper 0402 |
| 3257 | 4822 117 13605 | Jumper 0402 |
| 3258 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3259 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3260 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3262 | 4822 117 13601 | 22kΩ 5% 0402 |
| 3263 | 2322 702 70398 | 3.9Ω 5% 0603 |
| 3264 | 4822 117 13601 | 22kΩ 5% 0402 |
| 3265 | 2322 702 70398 | 3.9Ω 5% 0603 |
| 3266 | 3198 031 05620 | 5.6kΩ 5% 0.01W 0402 |
| 3267 | 3198 031 05620 | 5.6kΩ 5% 0.01W 0402 |
| 3268 | 4822 117 13545 | 100Ω 1% 0402 |
| 3272 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3273 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3274 | 3198 031 03910 | 390Ω 1% 0402 |
| 3275 | 4822 117 13545 | 100Ω 1% 0402 |
| 3276 | 3198 031 07590 | 75Ω 5% 0402 |
| 3277 | 3198 031 01520 | 1.2kΩ 5% 0.01W 0402 |
| 3280▲ | 4822 117 11151 | 1Ω 5% |
| 3281 | 3198 031 03930 | 39kΩ 5% 0402 |
| 3285 | 4822 117 13605 | Jumper 0402 |
| 3286 | 4822 117 13545 | 100Ω 1% 0402 |
| 3292▲ | 3198 031 01230 | 12kΩ 5% 0402 |
| 3294▲ | 3198 031 04730 | 47Ω 5% 0402 |
| 3295▲ | 4822 117 11297 | 100kΩ 5% 0.1W |
| 3431 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3451 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3453 | 4822 117 13545 | 100Ω 1% 0402 |
| 3454 | 4822 117 13545 | 100Ω 1% 0402 |
| 3455 | 4822 117 13545 | 100Ω 1% 0402 |
| 3456 | 4822 117 13545 | 100Ω 1% 0402 |
| 3458 | 4822 117 13545 | 100Ω 1% 0402 |
| 3459 | 4822 117 13545 | 100Ω 1% 0402 |
| 3461 | 4822 117 13545 | 100Ω 1% 0402 |
| 3462 | 4822 117 13545 | 100Ω 1% 0402 |
| 3501 | 4822 117 13543 | 470Ω 5% 0402 |
| 3502 | 3198 031 04730 | 47Ω 5% 0402 |

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|---|---|---|
| 3604 | 4822 117 13601 | 22kΩ 5% 0402 |
| 3605 | 4822 117 13601 | 22kΩ 5% 0402 |
| 3609 | 4822 117 13601 | 22kΩ 5% 0402 |
| 3610 | 4822 117 11297 | 100kΩ 5% 0.1W |
| 3611 | 4822 117 11297 | 100kΩ 5% 0.1W |
| 3612 | 4822 117 13601 | 22kΩ 5% 0402 |
| 3616 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3617 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3619 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3620 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3628 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3629 | 4822 117 13601 | 22kΩ 5% 0402 |
| 3630 | 4822 117 13602 | 2.2kΩ 5% 0.01W 0402 |
| 3631 | 4822 117 13602 | 2.2kΩ 5% 0.01W 0402 |
| 3632 | 2322 705 70569 | 56Ω 5% 0402 |
| 3633 | 2322 705 70569 | 56Ω 5% 0402 |
| 3708 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3709 | 3198 031 06820 | 6.8kΩ 5% 0.01W 0402 |
| 3712 | 5322 117 13031 | 5.6kΩ 1% 0.063W 0603 |
| 3713 | 2322 704 63302 | 3.3kΩ 1% 0603 |
| 3716 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3732 | 2322 704 61002 | 1kΩ 1% |
| 3733 | 2322 704 63302 | 3.3kΩ 1% 0603 |
| 3734 | 4822 117 13602 | 2.2kΩ 5% 0.01W 0402 |
| 3735 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3736 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3740 | 3198 031 01520 | 1.2kΩ 5% 0.01W 0402 |
| 3741 | 3198 031 01520 | 1.2kΩ 5% 0.01W 0402 |
| 3742 | 3198 031 01530 | 15kΩ 5% 0.01W 0402 |
| 3743 | 4822 117 13601 | 22kΩ 5% 0402 |
| 3750 | 4822 117 13601 | 22kΩ 5% 0402 |
| 3751 | 3198 021 31080 | 1Ω 5% 0603 |
| 3752 | 3198 021 31080 | 1Ω 5% 0603 |
| 3753 | 2322 704 61002 | 1kΩ 1% |
| 3754 | 2322 704 63302 | 3.3kΩ 1% 0603 |
| 3759 | 3198 031 01230 | 12kΩ 5% 0402 |
| 3761 | 4822 117 13545 | 100Ω 1% 0402 |
| 3800 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3801 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3802 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3803 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3804 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3805 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3806 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3807 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3808 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3809 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3810 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3811 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3812 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3813 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3814 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3815 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3816 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3817 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3818 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3820 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3822 | 4822 117 13545 | 100Ω 1% 0402 |
| 3824 | 3198 031 03320 | 3.3kΩ 5% 0402 |
| 3825 | 3198 031 11030 | 4 x 10kΩ 5% 1206 |
| 3826 | 3198 031 11030 | 4 x 10kΩ 5% 1206 |
| 3827 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3828 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3829 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3831 | 4822 117 13545 | 100Ω 1% 0402 |
| 3832 | 4822 117 13545 | 100Ω 1% 0402 |
| 3833 | 3198 031 01090 | 10Ω 5% 0.01W 0402 |
| 3834 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3835 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3836 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3837 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3838 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3839 | 4822 117 13545 | 100Ω 1% 0402 |
| 3840 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3841 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3900 | 3198 031 03320 | 3.3kΩ 5% 0402 |
| 3901 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3902 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3903 | 4822 117 13545 | 100Ω 1% 0402 |
| 3904 | 4822 117 13545 | 100Ω 1% 0402 |
| 3A00 | 3198 031 06890 | 68Ω 5% 0402 |
| 3A01 | 3198 031 06890 | 68Ω 5% 0402 |
| 3A07 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3A08 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3A10 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3A11 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3A13 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3A14 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3B01 | 4822 117 12706 | 10kΩ 1% 0.063W 0603 |
| 3B02 | 4822 117 12706 | 10kΩ 1% 0.063W 0603 |
| 3B03 | 2322 704 61501 | 150Ω 1% 0603 |
| 3C00 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3C01 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3C02 | 4822 117 13548 | 1kΩ 5% 0402 |

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|---|---|---|
| 3C04 | 3198 031 11030 | 4 x 10kΩ 5% 1206 |
| 3C05 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3C06 | 3198 031 11030 | 4 x 10kΩ 5% 1206 |
| 3C07 | 3198 031 11030 | 4 x 10kΩ 5% 1206 |
| 3C08 | 3198 031 11030 | 4 x 10kΩ 5% 1206 |
| 3C09 | 3198 031 11030 | 4 x 10kΩ 5% 1206 |
| 3C10 | 3198 031 11030 | 4 x 10kΩ 5% 1206 |
| 3C16 | 3198 031 11030 | 4 x 10kΩ 5% 1206 |
| 3C17 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3C18 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3E00 | 2322 705 70569 | 56Ω 5% 0402 |
| 3E01 | 2322 705 70569 | 56Ω 5% 0402 |
| 3E02 | 2322 705 70569 | 56Ω 5% 0402 |
| 3E06 | 3198 031 04730 | 47Ω 5% 0402 |
| 3E07 | 3198 031 04730 | 47Ω 5% 0402 |
| 3E08 | 3198 031 04730 | 47Ω 5% 0402 |
| 3E09 | 3198 031 04730 | 47Ω 5% 0402 |
| 3E10 | 3198 031 04730 | 47Ω 5% 0402 |
| 3E11 | 3198 031 04730 | 47Ω 5% 0402 |
| 3E12 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3E13 | 4822 117 13597 | 330Ω 5% 0402 0.01W |
| 3E14 | 4822 117 13597 | 330Ω 5% 0402 0.01W |
| 3E15 | 4822 117 13597 | 330Ω 5% 0402 0.01W |
| 3E16 | 4822 117 13597 | 330Ω 5% 0402 0.01W |
| 3E17 | 4822 117 13597 | 330Ω 5% 0402 0.01W |
| 3E18 | 4822 117 13597 | 330Ω 5% 0402 0.01W |
| 3E19 | 2322 705 70569 | 56Ω 5% 0402 |
| 3E20 | 2322 705 70569 | 56Ω 5% 0402 |
| 3E21 | 2322 705 70569 | 56Ω 5% 0402 |
| 3E22 | 4822 117 13632 | 100kΩ 1% 0603 0.62W |
| 3E23 | 3198 031 08210 | 820Ω 5% 0.5W |
| 3E24 | 4822 117 13543 | 470Ω 5% 0402 |
| 3E25 | 2322 705 70399 | 39Ω 5% 0402 |
| 3E26 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3E27 | 2322 705 70399 | 39Ω 5% 0402 |
| 3E28 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3E29 | 2322 705 70399 | 39Ω 5% 0402 |
| 3E30 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3E31 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E32 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E33 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E34 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E35 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E36 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E37 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3E38 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E39 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E41 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E42 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E43 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E44 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E45 | 4822 117 13545 | 100Ω 1% 0402 |
| 3E49 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3E50 | 3198 031 04730 | 47Ω 5% 0402 |
| 3E51 | 3198 031 04730 | 47Ω 5% 0402 |
| 3E52 | 3198 031 04730 | 47Ω 5% 0402 |
| 3E53 | 3198 031 04730 | 47Ω 5% 0402 |
| 3E54 | 3198 031 04730 | 47Ω 5% 0402 |
| 3E55 | 3198 031 04730 | 47Ω 5% 0402 |
| 3F00 | 4822 051 30759 | 75Ω 5% 0.062W |
| 3F09 | 4822 051 30759 | 75Ω 5% 0.062W |
| 3F10 | 3198 021 31080 | 1Ω 5% 0603 |
| 3F11 | 4822 051 30759 | 75Ω 5% 0.062W |
| 3F16 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3F17 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3F18 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3F19 | 3198 021 31080 | 1Ω 5% 0603 |
| 3F20 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3F21 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3F22 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3F23 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3F24 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3F25 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3F26 | 4822 051 30153 | 15kΩ 5% 0.062W |
| 3F27 | 4822 051 30153 | 15kΩ 5% 0.062W |
| 3F28 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3F29 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3G00 | 4822 051 30151 | 150Ω 5% 0.062W |
| 3G01 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3G02 | 4822 117 12891 | 220kΩ 1% |
| 3G03 | 4822 051 30153 | 15kΩ 5% 0.062W |
| 3G04 | 4822 051 30151 | 150Ω 5% 0.062W |
| 3G05 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3G06 | 4822 117 12891 | 220kΩ 1% |
| 3G07 | 4822 051 30153 | 15kΩ 5% 0.062W |
| 3G08 | 4822 051 30151 | 150Ω 5% 0.062W |
| 3G12 | 2122 118 06408 | 91Ω 5% 0603 |
| 3G13 | 2122 118 06408 | 91Ω 5% 0603 |
| 3G14 | 2122 118 06408 | 91Ω 5% 0603 |
| 3G15 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3G16 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3G17 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3G26 | 4822 051 30273 | 27kΩ 5% 0.062W |
| 3G27 | 4822 051 30682 | 6.8Ω 5% 0.062W |

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|---|---|---|
| 3G28 | 4822 051 30759 | 75Ω 5% 0.062W |
| 3G29 | 4822 051 30331 | 330Ω 5% 0.062W |
| 3G30 | 4822 051 30689 | 68Ω 5% 0.063W 0603 |
| 3G31 | 4822 051 30759 | 75Ω 5% 0.062W |
| 3G32 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3G33 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3G34 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3G37 | 4822 051 30151 | 150Ω 5% 0.062W |
| 3G38 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3G39 | 4822 117 12891 | 220kΩ 1% |
| 3G40 | 4822 051 30153 | 15kΩ 5% 0.062W |
| 3G41 | 4822 051 30151 | 150Ω 5% 0.062W |
| 3G42 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3G43 | 4822 117 12891 | 220kΩ 1% |
| 3G44 | 4822 051 30153 | 15kΩ 5% 0.062W |
| 3G45 | 4822 051 30759 | 75Ω 5% 0.062W |
| 3G46 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3G47 | 4822 117 12925 | 47kΩ 1% 0.063W 0603 |
| 3G48 | 4822 117 12925 | 47kΩ 1% 0.063W 0603 |
| 3G51 | 4822 051 30273 | 27kΩ 5% 0.062W |
| 3G52 | 4822 051 30682 | 6.8Ω 5% 0.062W |
| 3G53 | 4822 051 30689 | 68Ω 5% 0.063W 0603 |
| 3G54 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3G57 | 4822 051 30759 | 75Ω 5% 0.062W |
| 3G58 | 4822 051 30101 | 100Ω 5% 0.062W |
| 3G59 | 4822 117 12925 | 47kΩ 1% 0.063W 0603 |
| 3G60 | 4822 117 12925 | 47kΩ 1% 0.063W 0603 |
| 3G96 | 4822 117 12925 | 47kΩ 1% 0.063W 0603 |
| 3G99 | 4822 117 12925 | 47kΩ 1% 0.063W 0603 |
| 3J05 | 3198 031 06890 | 68Ω 5% 0402 |
| 3K00 | 4822 117 13545 | 100Ω 1% 0402 |
| 3K01 | 4822 117 13545 | 100Ω 1% 0402 |
| 3K02 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3K03 | 3198 031 01530 | 15kΩ 5% 0.01W 0402 |
| 3K05 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3K06 | 3198 031 01530 | 15kΩ 5% 0.01W 0402 |
| 3K07 | 2322 705 70399 | 39Ω 5% 0402 |
| 3K09 | 2322 705 70399 | 39Ω 5% 0402 |
| 3K11 | 3198 031 06890 | 68Ω 5% 0402 |
| 3K12 | 3198 031 06890 | 68Ω 5% 0402 |
| 3K13 | 3198 031 06890 | 68Ω 5% 0402 |
| 3L00 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3L04 | 4822 117 13605 | Jumper 0402 |
| 3L05 | 3198 031 01510 | 150Ω 5% 0.01W 0402 |
| 3L06 | 4822 117 13605 | Jumper 0402 |
| 3L10 | 4822 117 13597 | 330Ω 5% 0402 0.01W |
| 3L11 | 3198 031 01510 | 150Ω 5% 0.01W 0402 |
| 3L12 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3L16 | 4822 117 13605 | Jumper 0402 |
| 3L17 | 3198 031 01510 | 150Ω 5% 0.01W 0402 |
| 3L19 | 3198 031 01510 | 150Ω 5% 0.01W 0402 |
| 3L20 | 3198 031 01510 | 150Ω 5% 0.01W 0402 |
| 3L21 | 4822 117 13602 | 2.2kΩ 5% 0.01W 0402 |
| 3L22 | 4822 117 13602 | 2.2kΩ 5% 0.01W 0402 |
| 3L24 | 4822 117 13602 | 2.2kΩ 5% 0.01W 0402 |
| 3L25 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3L26 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3L27 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3L28 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3L30 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3L31 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3L32 | 4822 117 13602 | 2.2kΩ 5% 0.01W 0402 |
| 3L33 | 4822 117 13596 | 220Ω 5% 0.01W 0402 |
| 3L34 | 4822 117 13605 | Jumper 0402 |
| 3L35 | 4822 117 13596 | 220Ω 5% 0.01W 0402 |
| 3L36 | 3198 031 03320 | 3.3kΩ 5% 0402 |
| 3L37 | 3198 031 03320 | 3.3kΩ 5% 0402 |
| 3M01 | 2350 035 10689 | 4 x 68Ω 5% |
| 3M02 | 2350 035 10689 | 4 x 68Ω 5% |
| 3M03 | 2350 035 10689 | 4 x 68Ω 5% |
| 3M04 | 2350 035 10689 | 4 x 68Ω 5% |
| 3M06 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3M07 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3M08 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3M09 | 2350 035 10229 | 4 x 22Ω 5% 1206 |
| 3M11 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3M13 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3M14 | 4822 117 13545 | 100Ω 1% 0402 |
| 3M15 | 4822 117 13545 | 100Ω 1% 0402 |
| 3M16 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3M26 | 4822 117 13605 | Jumper 0402 |
| 3M27 | 4822 117 13605 | Jumper 0402 |
| 3M50 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3M51 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3M52 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3M53 | 4822 117 13546 | 47Ω 5% 0402 |
| 3M54 | 4822 117 13546 | 47Ω 5% 0402 |
| 3M55 | 4822 117 13546 | 47Ω 5% 0402 |
| 3M56 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3M57 | 4822 117 13546 | 47Ω 5% 0402 |
| 3M58 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3M59 | 4822 117 13546 | 47Ω 5% 0402 |
| 3M78 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3M79 | 3198 031 03320 | 3.3kΩ 5% 0402 |

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|---|---|---|
| 3M87 | 4822 117 13605 | Jumper 0402 |
| 3M89 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3M90 | 3198 031 02290 | 22Ω 5% 0.1W 0402 |
| 3N01 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3N02 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3N03 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3N04 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3N05 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3N06 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3N07 | 4822 051 30333 | 33kΩ 5% 0.062W |
| 3N08 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3N09 | 4822 117 13548 | 1kΩ 5% 0402 |
| 3N10 | 4822 117 13603 | 33kΩ 5% 0402 |
| 3N11 | 4822 117 13546 | 47Ω 5% 0402 |
| 3N12 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3N13 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3N14 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3N15 | 4822 117 13546 | 47Ω 5% 0402 |
| 3N16 | 4822 117 13546 | 47Ω 5% 0402 |
| 3N17 | 4822 117 13546 | 47Ω 5% 0402 |
| 3N18 | 4822 117 13546 | 47Ω 5% 0402 |
| 3N19 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3N20 | 4822 117 13546 | 47Ω 5% 0402 |
| 3N21 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N22 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N23 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N24 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N25 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N26 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3N27 | 4822 117 13546 | 47Ω 5% 0402 |
| 3N28 | 4822 051 30181 | 180Ω 5% 0.062W |
| 3N29 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N30 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N31 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N32 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N33 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N34 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N35 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N46 | 4822 117 13545 | 100Ω 1% 0402 |
| 3N47 | 4822 117 13545 | 100Ω 1% 0402 |
| 3P01 | 3198 031 04720 | 4.7kΩ 5% 0402 |
| 3P03 | 4822 117 13546 | 47Ω 5% 0402 |
| 3P04 | 4822 117 13545 | 100Ω 1% 0402 |
| 3P04 | 4822 117 13605 | Jumper 0402 |
| 3P05 | 4822 117 13545 | 100Ω 1% 0402 |
| 3P05 | 4822 117 13605 | Jumper 0402 |
| 3S00 | 4822 117 12925 | 47kΩ 1% 0.063W 0603 |
| 3S03 | 4822 117 12925 | 47kΩ 1% 0.063W 0603 |
| 4211 | 4822 117 13605 | Jumper 0402 |
| 4212 | 4822 117 13605 | Jumper 0402 |
| 4440 | 4822 117 13605 | Jumper 0402 |
| 4441 | 4822 117 13605 | Jumper 0402 |
| 4501 | 4822 117 13605 | Jumper 0402 |
| 4502 | 4822 117 13605 | Jumper 0402 |
| 4504 | 4822 117 13605 | Jumper 0402 |
| 4511 | 4822 117 13605 | Jumper 0402 |
| 4801 | 4822 117 13605 | Jumper 0402 |
| 4A04 | 4822 117 13605 | Jumper 0402 |
| 4J01 | 4822 117 13605 | Jumper 0402 |
| 4K04 | 4822 117 13605 | Jumper 0402 |
| 4K05 | 4822 117 13605 | Jumper 0402 |
| 4L02 | 4822 117 13605 | Jumper 0402 |
| 4M00 | 4822 117 13605 | Jumper 0402 |
| 4M01 | 4822 117 13605 | Jumper 0402 |
| 4M02 | 4822 117 13605 | Jumper 0402 |
| 4M03 | 4822 117 13605 | Jumper 0402 |
| 4M05 | 4822 117 13605 | Jumper 0402 |
| 4M08 | 4822 117 13605 | Jumper 0402 |
| 4M09 | 4822 117 13605 | Jumper 0402 |
| 4M10 | 4822 117 13605 | Jumper 0402 |
| 4M16 | 4822 117 13605 | Jumper 0402 |
| 4M17 | 4822 117 13605 | Jumper 0402 |
| 4N01 | 4822 117 13605 | Jumper 0402 |
| 4N02 | 4822 117 13605 | Jumper 0402 |
| 4N03 | 4822 117 13605 | Jumper 0402 |
| 4N04 | 4822 117 13605 | Jumper 0402 |
| 4N05 | 4822 117 13605 | Jumper 0402 |
| 4N06 | 4822 117 13605 | Jumper 0402 |
| 4N07 | 4822 117 13605 | Jumper 0402 |
| 4N08 | 4822 117 13605 | Jumper 0402 |
| 4N09 | 4822 117 13605 | Jumper 0402 |
| 4N10 | 4822 117 13605 | Jumper 0402 |
| 4N11 | 4822 117 13605 | Jumper 0402 |
| 4N12 | 4822 117 13605 | Jumper 0402 |
| 4N13 | 4822 117 13605 | Jumper 0402 |
| 4N14 | 4822 117 13605 | Jumper 0402 |
| 4N15 | 4822 117 13605 | Jumper 0402 |
| 4N16 | 4822 117 13605 | Jumper 0402 |
| 4N17 | 4822 117 13605 | Jumper 0402 |
| 4N18 | 4822 117 13605 | Jumper 0402 |
| 4N19 | 4822 117 13605 | Jumper 0402 |
| 4N20 | 4822 117 13605 | Jumper 0402 |
| 4N21 | 4822 117 13605 | Jumper 0402 |
| 4N22 | 4822 117 13605 | Jumper 0402 |

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|---|---|---|
| 4P07 | 4822 117 13605 | Jumper 0402 |

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|---|---|---|
| 5101 | 3198 018 33970 | 0.39μF 10% 0805 |
| 5103 | 4822 157 71334 | 0.68μH 5% 1008 |
| 5107 | 4822 051 30101 | 100Ω 5% 0.062W |
| 5108 | 4822 051 30101 | 100Ω 5% 0.062W |
| 5201 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5202 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5203 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5204 | 2422 549 42896 | Bead 120Ω 100MHz |
| 5205 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5206 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5207 | 2422 549 42896 | Bead 120Ω 100MHz |
| 5208 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5209 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5210 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5211 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5212 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5213 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5214 | 2422 536 00667 | 1000μF 20% 7032 |
| 5216 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5218▲ | 2422 549 45333 | Bead 120Ω 100MHz |
| 5501 | 3198 018 31080 | 1uF 10% 0805 |
| 5704 | 4822 157 63635 | 10μF 20% 1206 |
| 5709 | 2422 535 94134 | 10μH 20% 0805 |
| 5712 | 2422 536 00339 | 33μ 20% |
| 5713 | 2422 535 94995 | 10μF 20% 10145 |
| 5730 | 2422 535 94134 | 10μH 20% 0805 |
| 5733 | 2422 536 00689 | 220μF 20% |
| 5735 | 2422 536 00667 | 1000μF 20% 7032 |
| 5737 | 2422 535 94134 | 10μH 20% 0805 |
| 5738 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5752 | 2422 535 94134 | 10μH 20% 0805 |
| 5753 | 2422 536 00689 | 220μF 20% |
| 5754 | 2422 535 94134 | 10μH 20% 0805 |
| 5900 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5901 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5902 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5903 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5904 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5905 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5906 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5907 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5908 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5909 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5910 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5911 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5A00 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5C00 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5E00 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5E01 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5E02 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5E03 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5F00 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5F01 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5F02 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5F03 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5G02 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5J01 | 2422 549 42896 | Bead 120Ω 100MHz |
| 5J02 | 2422 549 42896 | Bead 120Ω 100MHz |
| 5J03 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5J04 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5L00 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5L01 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5L02 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5M00 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5M01 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5M02 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5M03 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5M04 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5M05 | 2422 549 45333 | Bead 120Ω 100MHz |
| 5N01 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5N02 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5N03 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5N04 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5N05 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5P01 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5P02 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5P03 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5P04 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5P05 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5P06 | 4822 157 11716 | Bead 30Ω at 100MHz |

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|---|---|---|
| 6101 | 4822 130 11416 | PDZ6.8B |
| 6102 | 4822 130 11416 | PDZ6.8B |
| 6103 | 4822 130 11397 | BAS316 |
| 6104 | 4822 130 11525 | 1SS356 |
| 6204 | 4822 130 80622 | BAT54 |
| 6205 | 4822 130 80622 | BAT54 |
| 6430 | 9340 548 42115 | PDZ2.4B |
| 6431 | 9965 000 20150 | 1N4148WS SOD-323 |
| 6601 | 4822 130 10838 | UDZ3.3B |
| 6708 | 3198 010 10720 | SS24 |
| 6709 | 9322 128 70685 | SMSS14 |
| 6712 | 3198 010 10730 | SS36 |
| 6733 | 9322 128 70685 | SMSS14 |
| 6735 | 5322 130 34337 | BAV99 |
| 6736 | 9340 548 71115 | PDZ33B |
| 6740 | 4822 130 10837 | UDZS8.2B |
| 6751 | 9322 128 70685 | SMSS14 |
| 6E01 | 9322 102 64685 | UDZ2.7B |
| 6E03 | 9322 102 64685 | UDZ2.7B |
| 6F00 | 4822 130 11397 | BAS316 |
| 6F01 | 4822 130 11397 | BAS316 |
| 6G03 | 4822 130 11416 | PDZ6.8B |
| 6G04 | 4822 130 11416 | PDZ6.8B |
| 6G05 | 4822 130 11416 | PDZ6.8B |
| 6G06 | 4822 130 11416 | PDZ6.8B |
| 6G07 | 4822 130 11416 | PDZ6.8B |
| 6G08 | 4822 130 11416 | PDZ6.8B |
| 6G09 | 4822 130 11416 | PDZ6.8B |
| 6G10 | 4822 130 11416 | PDZ6.8B |
| 6N01 | 9322 085 77685 | TLMG3100 |

**▭ Software 42PF 7320/10 (See Product Survey)**

| | | |
|---|---|---|
| 7050 | 3104 337 00881 | |
| 7051 | 3104 337 31181 | |
| 7052 | 3104 317 09141 | |
| 7055 | 3104 317 08881 | |

**▭ Software 42PF 5320/10 (See Product Survey)**

| | | |
|---|---|---|
| 7050 | 3104 337 00881 | |
| 7051 | 3104 337 01191 | |
| 7055 | 3104 317 08891 | |

**▭ Software 50 PF 7320/10 (See Product Survey)**

| | | |
|---|---|---|
| 7050 | 3104 337 00881 | |
| 7051 | 3104 337 01191 | |
| 7055 | 3104 317 08881 | For SDI Sets |
| 7055 | 3104 317 08891 | For LG Sets |

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|---|---|---|
| 7101 | 3198 010 42310 | BC847BW |
| 7201 | 9340 550 49115 | PUMH7 |
| 7202 | 9340 550 49115 | PUMH7 |
| 7206 | 4822 130 60373 | BC856B |
| 7207 | 9322 214 45668 | M24C16-WMN6P |
| 7208 | 3198 010 42310 | BC847BW |
| 7209 | 3198 010 42310 | BC847BW |
| 7210 | 3198 010 42310 | BC847BW |
| 7214 | 9339 693 90135 | BCP69-25 |
| 7215 | 9339 693 90135 | BCP69-25 |
| 7216 | 9340 425 20115 | BC847BS |
| 7217 | | For SW see item 7050 |
| 7219▲ | 4822 209 60792 | 74HC4053D |
| 7430 | 4822 130 11155 | PDTC114ET |
| 7436 | 9352 607 39118 | 74LVC14APW |
| 7501 | 9322 199 16668 | M74HC590T |
| 7502 | 9322 201 05671 | CY62256LL-70ZC |
| 7503 | 9322 199 16668 | M74HC590T |
| 7504 | 3198 010 42310 | BC847BW |
| 7505 | 9351 870 00118 | 74HC573PW |
| 7506 | 9351 870 00118 | 74HC573PW |
| 7601 | 9322 183 05668 | TS482ID |
| 7602 | 9351 742 70118 | 74HC08PW |
| 7603 | 3198 010 42310 | BC847BW |
| 7604 | 3198 010 42310 | BC847BW |
| 7605 | 9340 310 50215 | PDTA143ET |
| 7606 | 9340 425 20115 | BC847BS |
| 7708 | 9322 139 16668 | LF33CPT |
| 7710 | 9322 202 34668 | L5973D |
| 7730 | 9322 191 07668 | IC SM L5970D |
| 7735 | 4822 130 42804 | BC817-25 |
| 7738 | 9322 163 24668 | L78M08CDT |
| 7741 | 3198 010 42310 | BC847BW |
| 7742 | 3198 010 42310 | BC847BW |
| 7752 | 5322 209 90529 | MC34063AD |
| 7756 | 4822 130 11155 | PDTC114ET |
| 7758 | 9322 212 14668 | SI4423DY |
| 7801 | 9322 219 57671 | GM1501H-LF-BD |
| 7900 | 9322 142 88668 | LF25CDT |
| 7901 | 9322 189 19668 | LD1086D2T18 |

| | | |
|---|---|---|
| 7A00 | 9352 759 98118 | PCA9515ADP |
| 7A02 | 3198 010 42310 | BC847BW |
| 7A03 | 3198 010 42310 | BC847BW |
| 7B01 | 9322 214 42671 | K4D263238F-QC50 |
| 7C00 | | For SW see item 7051 |
| 7C01 | 9322 206 23668 | M24C32-WMN6P |
| 7C02 | 9322 215 39685 | PST596JN |
| 7E00 | 9322 195 23668 | ADG733BRU |
| 7E01 | 9322 199 80668 | SM5301BS-G |
| 7E02 | 9322 199 56668 | ADG781BCP |
| 7E03 | 4822 209 60792 | 74HC4053D |
| 7E04 | 9352 607 39118 | 74LVC14APW |
| 7E05 | 9352 607 39118 | 74LVC14APW |
| 7F03 | | For SW see item 7055 |
| 7G03 | 3198 010 42310 | BC847BW |
| 7G05 | 3198 010 42310 | BC847BW |
| 7G10 | 4822 209 60792 | 74HC4053D |
| 7L01 | 3198 010 42310 | BC847BW |
| 7L02 | 3198 010 42310 | BC847BW |
| 7L03 | 3198 010 42310 | BC847BW |
| 7L04 | 9322 212 77672 | MST9883C-LF-110 |
| 7L05 | 4822 209 17398 | LD1117DT33 |
| 7L06 | 9965 000 04199 | BSN20 |
| 7L07 | 9965 000 04199 | BSN20 |
| 7M00 | 9322 204 76671 | T6TU5XBG-0001 |
| 7M01 | 9322 206 19672 | MSM56V16160F-7T3-FG |
| 7N01 | | For SW see item 7052 |
| 7N02 | 9322 217 35671 | EP1C12F256C8N |
| 7N03 | 9340 425 20115 | BC847BS |
| 7N04 | 9322 210 59668 | THC63LVDF84B |
| 7P01 | 9322 170 14668 | LF15ABDT |
| 7P02 | 9322 201 03668 | THC63LVDM83R |

## PDP Audio [C]

### Various

| | | |
|---|---|---|
| 1735 | 4822 267 10918 | Connector 3p |
| 1736 | 2422 025 10768 | Connector 3p m |
| 1M02 | 4822 267 10618 | Connector 7p |
| 1M06 | 2422 025 11244 | Connector 7p m |
| 1M52 | 2422 025 10769 | Connector 9p m |

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|---|---|---|
| 2700 | 4822 126 14247 | 1.5nF 50V 0603 |
| 2701 | 4822 126 14249 | 560pF 10% 50V 0603 |
| 2703 | 2020 552 96683 | 220nF 10% 50V |
| 2704 | 4822 124 11767 | 470µF 20% 25V |
| 2705 | 4822 126 14249 | 560pF 10% 50V 0603 |
| 2706 | 5322 126 11579 | 3.3nF 10% 63V |
| 2707 | 2222 580 15649 | 100nF 10% 50V 0805 |
| 2709 | 2020 552 96683 | 220nF 10% 50V |
| 2710 | 2020 552 96683 | 220nF 10% 50V |
| 2711 | 2022 552 05679 | 1µF 10% 16V 0805 |
| 2712 | 4822 126 14583 | 470nF 10% 16V 0805 |
| 2713 | 4822 126 13193 | 4.7nF 10% 63V |
| 2715 | 4822 121 51252 | 470nF 5% 63V |
| 2716 | 3198 017 31530 | 15nF 20% 50V 0603 |
| 2717 | 2022 552 05679 | 1µF 10% 16V 0805 |
| 2718 | 2222 580 15649 | 100nF 10% 50V 0805 |
| 2719 | 4822 126 14583 | 470nF 10% 16V 0805 |
| 2720 | 2020 021 91431 | 22µF 20% 100V |
| 2721 | 2222 580 15649 | 100nF 10% 50V 0805 |
| 2722 | 4822 126 14583 | 470nF 10% 16V 0805 |
| 2723 | 2022 552 05679 | 1µF 10% 16V 0805 |
| 2726 | 4822 126 13193 | 4.7nF 10% 63V |
| 2727 | 4822 126 14249 | 560pF 10% 50V 0603 |
| 2731 | 4822 126 14249 | 560pF 10% 50V 0603 |
| 2732 | 4822 126 14583 | 470nF 10% 16V 0805 |
| 2736 | 4822 121 51252 | 470nF 5% 63V |
| 2737 | 3198 017 31530 | 15nF 20% 50V 0603 |
| 2739 | 2222 580 15649 | 100nF 10% 50V 0805 |
| 2741 | 4822 126 13883 | 220pF 5% 50V |
| 2743 | 3198 016 31020 | 1nF 25V 0603 |
| 2744 | 2222 580 15649 | 100nF 10% 50V 0805 |
| 2745 | 2020 552 96683 | 220nF 10% 50V |
| 2746 | 4822 124 11767 | 470µF 20% 25V |
| 2747 | 2022 552 05679 | 1µF 10% 16V 0805 |
| 2748 | 4822 126 14247 | 1.5nF 50V 0603 |
| 2749 | 5322 126 11579 | 3.3nF 10% 63V |
| 2751 | 4822 124 40433 | 47µF 20% 25V |
| 2754 | 2020 021 91431 | 22µF 20% 100V |
| 2770 | 3198 017 41050 | 1µF 10V 0603 |
| 2776 | 2020 021 91431 | 22µF 20% 100V |
| 2780 | 4822 126 14583 | 470nF 10% 16V 0805 |
| 2789 | 4822 126 14583 | 470nF 10% 16V 0805 |
| 2791 | 4822 126 13879 | 220nF +80-20% 16V |

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|---|---|---|
| 3700 | 4822 051 30561 | 560Ω 5% 0.062W |
| 3701 | 4822 051 30479 | 47Ω 5% 0.062W |
| 3702 | 3198 021 38220 | 8.2kΩ 5% 0.062W 0603 |
| 3703 | 3198 021 38220 | 8.2kΩ 5% 0.062W 0603 |
| 3704 | 4822 117 13632 | 100kΩ 1% 0603 0.62W |
| 3705 | 4822 051 30222 | 2.2kΩ 5% 0.062W |
| 3706 | 4822 051 30682 | 6.8Ω 5% 0.062W |
| 3707 | 4822 051 30393 | 39kΩ 5% 0.062W |
| 3708 | 4822 051 30479 | 47Ω 5% 0.062W |
| 3709 | 4822 051 30272 | 2.7kΩ 5% 0.062W |
| 3710 | 4822 051 30393 | 39kΩ 5% 0.062W |
| 3711 | 2322 762 60568 | 5.6Ω 5% 5% 2512 |
| 3712 | 4822 051 30272 | 2.7kΩ 5% 0.062W |
| 3713 | 4822 051 30332 | 3.3Ω 5% 0.062W |
| 3714 | 4822 051 30682 | 6.8Ω 5% 0.062W |
| 3715 | 2322 762 60568 | 5.6Ω 5% 5% 2512 |
| 3716 | 4822 117 13632 | 100kΩ 1% 0603 0.62W |
| 3717 | 4822 051 30222 | 2.2kΩ 5% 0.062W |
| 3718 | 4822 051 30561 | 560Ω 5% 0.062W |
| 3719 | 4822 051 30124 | 120kΩ 5% 0.062W |
| 3720 | 4822 051 30479 | 47Ω 5% 0.062W |
| 3721 | 4822 051 30471 | 47Ω 5% 0.062W |
| 3722 | 4822 051 30124 | 120kΩ 5% 0.062W |
| 3723 | 4822 051 30471 | 47Ω 5% 0.062W |
| 3724 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3725 | 4822 117 12925 | 47kΩ 1% 0.063W 0603 |
| 3726 | 4822 051 30153 | 15kΩ 5% 0.062W |
| 3727 | 4822 051 30103 | 10kΩ 5% 0.062W |
| 3728 | 4822 051 30153 | 15kΩ 5% 0.062W |
| 3729 | 4822 117 12925 | 47kΩ 1% 0.063W 0603 |
| 3730 | 4822 051 30223 | 22kΩ 5% 0.062W |
| 3731 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3732 | 4822 051 30223 | 22kΩ 5% 0.062W |
| 3733 | 4822 051 30562 | 5.6kΩ 5% 0.063W 0603 |
| 3734 | 4822 051 30223 | 22kΩ 5% 0.062W |
| 3735 | 4822 117 12889 | 270kΩ 1% 0.063W 0603 |
| 3736 | 4822 117 12925 | 47kΩ 1% 0.063W 0603 |
| 3737 | 4822 117 12925 | 47kΩ 1% 0.063W 0603 |
| 3738 | 4822 117 13632 | 100kΩ 1% 0603 0.62W |
| 3760 | 4822 051 30223 | 22kΩ 5% 0.062W |
| 3764 | 4822 117 13632 | 100kΩ 1% 0603 0.62W |
| 3765 | 4822 117 13632 | 100kΩ 1% 0603 0.62W |
| 3777 | 4822 051 30102 | 1kΩ 5% 0.062W |
| 3778 | 4822 051 30479 | 47Ω 5% 0.062W |
| 3999 | 4822 051 30472 | 4.7Ω 5% 0.062W |
| 9710 | 4822 051 20008 | Jumper 0805 |
| 9711 | 4822 051 20008 | Jumper 0805 |
| 9712 | 4822 051 20008 | Jumper 0805 |
| 9713 | 4822 051 20008 | Jumper 0805 |
| 9748 | 4822 051 20008 | Jumper 0805 |
| 9757 | 4822 051 20008 | Jumper 0805 |
| 9758 | 4822 051 20008 | Jumper 0805 |
| 9759 | 4822 051 20008 | Jumper 0805 |
| 9760 | 4822 051 20008 | Jumper 0805 |
| 9761 | 4822 051 20008 | Jumper 0805 |
| 9762 | 4822 051 20008 | Jumper 0805 |
| 9763 | 4822 051 20008 | Jumper 0805 |
| 9764 | 4822 051 20008 | Jumper 0805 |
| 9765 | 4822 051 20008 | Jumper 0805 |
| 9766 | 4822 051 20008 | Jumper 0805 |
| 9768 | 4822 051 20008 | Jumper 0805 |
| 9770 | 4822 051 20008 | Jumper 0805 |
| 9790 | 4822 051 20008 | Jumper 0805 |
| 9795 | 4822 051 20008 | Jumper 0805 |
| 9796 | 4822 051 20008 | Jumper 0805 |
| 9806 | 4822 051 20008 | Jumper 0805 |
| 9807 | 4822 051 20008 | Jumper 0805 |
| 9808 | 4822 051 20008 | Jumper 0805 |

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|---|---|---|
| 5700 | 2422 536 00942 | 33µH 20% |
| 5701 | 4822 157 11716 | Bead 30Ω at 100MHz |
| 5702 | 2422 536 00942 | 33µH 20% |
| 5705 | 4822 157 11411 | Bead 80Ω at 100MHz |
| 5708 | 4822 157 11411 | Bead 80Ω at 100MHz |

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|---|---|---|
| 6700 | 4822 130 11522 | UDZ15B |
| 6702 | 9322 150 18685 | BZX384-C47 |
| 6703 | 4822 130 10838 | UDZ3.3B |

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|---|---|---|
| 7700 | 9322 202 89668 | LM393P |
| 7701 | 9352 729 65112 | TDA8925ST/N1 |
| 7702 | 3198 010 42310 | BC847BW |
| 7705 | 3198 010 42310 | BC847BW |
| 7706 | 3198 010 42310 | BC847BW |
| 7707 | 3198 010 42310 | BC847BW |
| 7708 | 3198 010 42320 | BC857BW |
| 7709 | 3198 010 42310 | BC847BW |
| 7710 | 3198 010 42310 | BC847BW |
| 7711 | 3198 010 42320 | BC857BW |
| 7712 | 3198 010 42310 | BC847BW |
| 7713 | 3198 010 42310 | BC847BW |

## LED Panel [J]

### Various

| | | |
|---|---|---|
| 0345 | 2422 025 18741 | Connector 6p m |
| 1040 | 9322 206 81667 | TSOP34836YA1 |

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| | | |
|---|---|---|
| 2040 | 4822 124 12095 | 100µF 20% 16V |

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| | | |
|---|---|---|
| 3040 | 4822 117 13597 | 330Ω 5% 0402 0.01W |
| 3051 | 4822 051 30221 | 220Ω 5% 0.062W |
| 3061 | 4822 051 30221 | 220Ω 5% 0.062W |
| 3063 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 3078 | 3198 031 02250 | 2.2MΩ 5% 0.1W 0402 |
| 9012 | 4822 117 13605 | Jumper 0402 |
| 9041 | 4822 117 13605 | Jumper 0402 |
| 9042 | 4822 117 13605 | Jumper 0402 |
| 9062 | 4822 117 13605 | Jumper 0402 |
| 9066 | 4822 117 13606 | 10kΩ 5% 0.01W 0402 |
| 9070 | 4822 117 13605 | Jumper 0402 |
| 9081 | 4822 117 13605 | Jumper 0402 |
| 9082 | 4822 117 13605 | Jumper 0402 |
| 9111 | 4822 117 13605 | Jumper 0402 |
| 9112 | 4822 117 13605 | Jumper 0402 |
| 9115 | 4822 117 13605 | Jumper 0402 |
| 9122 | 4822 117 13605 | Jumper 0402 |

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| | | |
|---|---|---|
| 6051 | 9322 218 97685 | SML-310VTK |
| 6060 | 9322 134 46685 | SML-310MT |
| 6070 | 9322 140 63685 | TEMD5000 |

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|---|---|---|
| 7051 | 3198 010 42310 | BC847BW |
| 7052 | 3198 010 42310 | BC847BW |
| 7062 | 4822 130 60373 | BC856B |

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# 11. Revision List

**Manual xxxx xxx xxxx.0**
- First release.

**Manual xxxx xxx xxxx.1**
- Diversity tables in chapter 7 added.

**Manual xxxx xxx xxxx.2**
- Corrected several errors in the text.

**Manual xxxx xxx xxxx.3**
- Chapter 7: PSU schematics and PWB's [A] added.

- Chapter 10: PSU parts list [A] added and software items updated.